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ggttatgaca	gcaaattatt	ttcaggttat	gaaataggag	attttaatag	tcagaatctt	1560
gaaacaactg	tggctttttat	tgattatttg	aagagtctga	aagggtttgt	ttcctctgag	1620
gctgcgccga	tacccatagt	acaaaagtaa				1650

&lt;210&gt; 1625

&lt;211&gt; 228

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1625

tctcacacac	ttttttttct	acaagcatat	cctatgccaa	tatccattct	ctgccatact	60
ctgcctacat	atgattttac	tgcaccatgg	tcctatgtgc	aaccctctc	cagatccac	120
gctaattgcac	cccgttttct	ggctgacctg	aatccggcag	ataaattcat	ggagctcaat	180
ctgccacatg	taggacacct	ttcacatggt	tcattactaa	ccacttag		228

&lt;210&gt; 1626

&lt;211&gt; 777

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1626

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gaagagtcga	aaactctccg	tatcaatccc	gaaatgccta	tccttgccga	atcatctgct	180
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&lt;210&gt; 1627

&lt;211&gt; 1107

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1627

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ctatcagaca	gaaaaggcta	caaccgactt	attgaagcat	tcagtaaaat	tgctgcaaaa	660
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&lt;210&gt; 1628

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1628

tgatcatcatc	ggagccaatg	ctgttgaat	aaaagacgta	ccaaacaact	gtatagtagc	60
gggtgtacct	gcaaaaatta	taaagaaaat	atgatataatc	tcatttgcca	ggactggtca	120
aataccagca	ataatcatgc	aggtataaaa	tacttatgca	accaaattca	ggagatgtat	180
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attcgaatca	tagcaagttt	acaatatcac	tttgctcgat	acaagcacag	actatacaca	300
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gaatacatgg	agaaattttt	tcccatgctc	cattttgcac	aaaaagtga	aagatataaa	420
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gctataaccg	cattacaaac	agatagaata	cgattgaata	caatgcaaca	atcggcagcc	1080
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&lt;210&gt; 1629

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1629

gttggcgacc	gaatggagag	cacttacatc	gagttgaaag	atatagctca	ggagatatca	60
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aacttgatct	actctttaga	acaaaaacat	cgtgtgcaga	ccgtcgaaga	gttgattgct	180
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&lt;210&gt; 1630



<211> 792  
 <212> DNA  
 <213> B.fragilis

<400> 1630  
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 ggcgcaatcg gacttttact cggacaacgt gccgatgtga aagctatccg gcaaggcgct 180  
 tctaaatgtg tcatcgaggc acgattcgat atatcggcct atcacatgga agcctttttt 240  
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 ggtaaaaagta gggcatttat caatgataca cctgcttcgc tcacacaaat gaaagaactg 360  
 ggtgagcaat tgatcgatgt acactctcaa catcagaacc tattgctcaa taaggagggc 420  
 ttccagctta atgtgctcga tattctttcc cataacgaag aggccttgga tgtataccat 480  
 catttatatc aggattggaa aaaactctgt aaggaaactc atgaactgat tgttctggct 540  
 gaacaaagta agacggatga ggattatatt cgttttcagt tggaaacaact ggaggaggcg 600  
 catcttacgg ccggagaaca ggaagagttg gaacaagagg ccgagacatt ggcacacgcc 660  
 gaagacatca aggccggact gtaccgggtg gggcaaactc ttgcttcaga tgaaggaggg 720  
 ctgcttgccct gtattgaaag aaagtcttgg cgctttgagt gggctgcaga aagtatatca 780  
 acctgccggt ga 792

<210> 1631  
 <211> 456  
 <212> DNA  
 <213> B.fragilis

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 acttatgaaa ttacgggtac agtcccagaa tggtaa 456

<210> 1632  
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 <212> DNA  
 <213> B.fragilis

<400> 1632  
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 aacgggatca cagcttttaa tggttcggca aacaacatat tgggaggga agtctccggc 180  
 ggcgtgtggt taaataagat catcggtctg cgcgtcgatg cagaagccgg caacgtatgg 240  
 ctgaaaggcg gatacaatgc cgtgacagtt ggtgccggag cggatatcct ggtgaacctg 300  
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 tacaactact attcgtttgg tgatgattat ccagactgt caaagacgaa taccatgagc 420  
 ggtaacttct ctctgcaagc tgctttcagg ctgaattcgc atctgagcat ctttgctgaa 480  
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<210> 1633  
 <211> 687  
 <212> DNA  
 <213> B.fragilis

<400> 1633  
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<210> 1634

<211> 1044

<212> DNA

<213> B.fragilis

<400> 1634

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<210> 1635

<211> 951

<212> DNA

<213> B.fragilis

<400> 1635

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<210> 1636  
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 <212> DNA  
 <213> B.fragilis

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 accgggcgta cctattttgta tcacctgaag tcagatcttg cagaggctac gcatcaatta 840  
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<210> 1637  
 <211> 402  
 <212> DNA  
 <213> B.fragilis

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 cagcttccta ttgatgcggc tacgggtgtg atgcctgatg gtgtggaggc gcaagccgc 180  
 cagtcactcg agaataataa acatatcctt gaggetgccc gtctgacaat ggcagacatt 240  
 gtaaaaacaa ctgttttctt ccaggatatg tctctgtttg ccggaatgaa cggagtatac 300  
 gcaacttatt ttgacgggtc atttcccgtc cgcttcggctg ttgccgtgaa agccttgct 360  
 aaagatgcct tagtcgagat cgagtgcacg gccgcacgat aa 402

<210> 1638  
 <211> 885  
 <212> DNA  
 <213> B.fragilis

<400> 1638  
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 ttggcagcaa aaacaacttg ggaattttatt cagaatgtag gtataaatgt taatcccgaa 180  
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 ttgccggaag gtacatatat tatcaaagca gagggaagca agaaggaagt gattgtcgaa 840  
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<210> 1639  
 <211> 267  
 <212> DNA  
 <213> B.fragilis

<400> 1639  
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 aaatatgctc ctgaagaaca gcttcctgca aagcagggtg cccaatcacc gggtcctatt 180  
 cccggaaata ttgttgcaac cattacggcg gccgttaatg tggtagactca gggaaaaggg 240  
 aaagtggcta aaatcgagaa aatctga 267

<210> 1640  
 <211> 1179  
 <212> DNA  
 <213> B.fragilis

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 ataataaatt accttttatta taaagactgg catTTTTaaag acactcccct atcacaacca 180  
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<210> 1641  
 <211> 576  
 <212> DNA  
 <213> B.fragilis

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 tataatcttcc actatatctg tcatTTTgcgt tatgtggaat attataaaaa caccaacaaa 180  
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 tttggactcg gagccaaaat tttcggttcc attataatag gaaacaacgt taccatagga 480  
 gcaaatgcag tggtcacaaa ggatattcca gataacgcca tagttggtgg gataccagca 540  
 aaagtattaa gattcaaaga aataaatata ctataa 576

<210> 1642  
 <211> 585

<212> DNA  
<213> B.fragilis

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<400> 1642
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<210> 1643  
<211> 1611  
<212> DNA  
<213> B.fragilis

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<400> 1643
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caacgggtca gtcaacaaat ggaggagatt gcttatcaac aaaaggatat ttccgaaaag 240
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<210> 1644  
<211> 678  
<212> DNA  
<213> B.fragilis

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aagttaaaga aaatattagt aggacaagct gaaatccgaa ttaaccggga ggcattaaga 180
gaactcgaca gagctttttc ttctccacga cgcttattta aatctcaatc tcgtttctgcc 240
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ccatattatg	tggttacagg	cttttcttat	agtctcaata	agaaattaca	gttaaaaaaca	600
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&lt;210&gt; 1645

&lt;211&gt; 2442

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1645

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&lt;210&gt; 1646

&lt;211&gt; 714

<212> DNA  
 <213> B.fragilis

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<210> 1647  
 <211> 621  
 <212> DNA  
 <213> B.fragilis

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 tttggcaaaa ggcataaaac cccgaaagt cttcaagatc tttcgggggt ttataccttt 540  
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 caattccgtc cgtacaagta a 621

<210> 1648  
 <211> 1230  
 <212> DNA  
 <213> B.fragilis

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 atcactgaag gtgaattcag agacaaaata gaggcagtgc tccctaccct gcctcaaggg 180  
 aaacacatgc acttttacta taatccggtt tcggaagaag tacggaagat gtgttggaat 240  
 caaggagatt ggcgttttcta taaacactat aagaaatggc aatggaagac ttacgagatg 300  
 gcacaggaaa taatagtcaa acaacatata gatattgtac accaattaaa tatgattggc 360  
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ctatataaaa	aagtattgtc	acaagaatga				1230

&lt;210&gt; 1649

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1649

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&lt;210&gt; 1650

&lt;211&gt; 1863

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1650

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&lt;210&gt; 1651

&lt;211&gt; 798

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1651

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aaccagatcg	tggTTTTcgg	tcaggatatt	gacttctcta	cctctgcaga	ggaaacacag	600
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&lt;210&gt; 1652

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1652

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gatcgggcta	tcagcattat	tcgtgggtatt	ttgctttact	ccaggggggaa	agaagacgaa	360
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atcgcatga						849

&lt;210&gt; 1653

&lt;211&gt; 1323

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1653

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gcactctata	aattgggaac	aatatatctg	gttaagtacc	aaaagaaaca	attaatcagt	1260
aaatttcaga	aagatgataa	cctacttaaa	ttgttaaata	atgcaaataag	ggggggggggg	1320
taa						1323

&lt;210&gt; 1654

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1654

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gaacgctaca	tacaccgttc	aatagacagc	ttattacgtc	agacttataa	taatttagaa	120
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ccactattgt	cgagattgaa	gaagatgtat	aagaattaa			999

&lt;210&gt; 1655

&lt;211&gt; 237

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1655

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cggaaagttc	agaatgcgca	ggagaatttg	gagagaaaaa	gcaagttcaa	cggttaa	237

&lt;210&gt; 1656

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1656

ataagatacg	tctctatata	tggaaccatt	ttgtatctaa	atatatcagt	taacgtgata	60
acacttactt	ccaaatacga	ctgttgccgg	tgtacagcct	gtacctccgc	ttgtaatagg	120
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aaaaaacggt	ttacatga					1218

&lt;210&gt; 1657

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1657

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ttaaaatact	tctctgagaa	ataa				924

&lt;210&gt; 1658

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1658

aatagaccag	tttaccagtg	tttttatgaa	ataacataca	cttgtaaagt	aatacttaat	60
gatgttaaata	attatggggg	gcgtagggac	aaatcgaagt	ttcatgttct	taattataat	120
atatggttac	ttgtttattt	attgtatgaa	agtaaggaaa	tgcaatacat	gattgattat	180
tcttaa						186

&lt;210&gt; 1659

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1659

aatttataaa	ttttatatat	gggtataaat	aggaatcatt	acagcttttt	tttgtatttt	60
gtctttatca	tattttgtgt	tttgggtgt	cgacctgtcc	gggtacagat	gccggacgga	120
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taa						363

&lt;210&gt; 1660

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1660

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actaacagt	ccgctaaaaa	acgcaaagct	ggaagctgcc	ggtgcaggag	ccattgtcct	180
gaaatcacta	ttga					195

&lt;210&gt; 1661

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1661

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&lt;210&gt; 1662

&lt;211&gt; 1398

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1662

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<210> 1663

<211> 210

<212> DNA

<213> B.fragilis

<400> 1663

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ctgggaccca ttaataacaa cctctcttct gacaatcgct gttggcattt atcacacaat 180
tggaatacaa ccttttctaa acctttgggc 210

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<210> 1664

<211> 507

<212> DNA

<213> B.fragilis

<400> 1664

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<210> 1665

<211> 645

<212> DNA

<213> B.fragilis

<400> 1665

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accagagaat	ggggagaaat	cccggcagac	ttcgggaagaa	aatag		645

&lt;210&gt; 1666

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1666

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tttgcaagcg	gatacggaac	tgttttatct	ttcgaagatc	agtcggtcgt	taagggattg	360
caggaagcat	tcagcagtta	taaggataac	ttccccgggt	ggtcgctgca	gacttctgcg	420
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cattacaatc	cgctgatcga	tgaagaagta	cgccatacct	ggcatttgcc	tgaagagtgg	540
catctgattg	ccgaaatgcc	gtttggactt	ccggtacagg	gacctggcga	taaagatttt	600
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&lt;210&gt; 1667

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1667

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tctgatttta	atgagcgttc	tttgcattct	gttgtttgca	tggagaagca	gctttctgct	180
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gagagagagc	ggatcaaga	tttagaagag	aaacgcaggc	aatatgaaca	acaattgaat	600
ttgcttcaac	aagaagaaaa	aatgcggata	agagaactga	gtgatctacg	ggagaagcat	660
aaacaaaaag	aagctcagat	tgaagtattg	tcagtagaga	agaaacgtag	caaagaacag	720
caaagtattc	ttgaaaagga	atgtcaagag	ggatgtctcc	aaataacgat	gctttccgat	780
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ataaaggtga	aaaatgaagg	cgggtatcag	ttagtgtctg	ctaaggagag	tgatgacttc	1200
tgcgagagag	aactcttttg	a				1221

&lt;210&gt; 1668

&lt;211&gt; 2145

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1668

catcccgtgt	ccaccactaa	atccaaagta	acaattcata	aaaaagtaat	cagcatgaag	60
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acaatcattg cagaaaagcc atccgtggca cgtgagatcg cccgcacgtg gggcgcgaca 120
aagagagagg aaggatattt cgagggaggg gactgtgccg tgacatgggc attcggacac 180
cttgtccagc ttgtatgcc cgacggctac ggcatacgcg gcttcgtccg tgacaacctg 240
cccgatcatc ccgaaacctt cacgctcatt ccccgtcagg aaaaacgga gaagggttac 300
aaacccgaca gggcggtggg gtcgcagata aaaatcatcg cccgtctttt caaggaaagc 360
gagcagatca tcgtggcgac cgatgcagga cgcaagggtg agcttatctt ccgataacct 420
taccattata tcgcatgtac tacgcctttt gtacgcctgt ggataagctc gctcaccgac 480
aaggctatcc gcgagggact gcgcaacctt gaagcgggaa gcaagtatga caacctctat 540
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ggcaagagct tcgatgccgt ggttgccctt gacggggact acaacacgac tttcgtgttc 2100
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&lt;210&gt; 1669

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1669

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tttaccaatc cactaaattc caaagtaatg aacaacaaga agaaaaacga ggggcaaac 60
gacttttctt actacggtct gtacctgtcg gactatctca gaacgaacaa atttgaacaa 120
gcgaccgacg aagccttcat ccgtgaacgc gccgaccgtg ccgccggaac gtatgaatgg 180
gcaatgctcg aaggctatcc cgcgatggg ggcgaggaa tggcgatgcg cacgctgctg 240
gaggggcttc actactccaa gtacgccatc ctccgcgaag tcgtagagaa cgagttttcc 300
gatgacgtgc cggaagcgaa gcgtgaatcc tttaccgaa aactgctgcc acttgtcgga 360
aacgtattct ccatttatga cctctcggac gacaatttcg ccctgtcgcc cgattacgac 420
ctgctctaca cggagctgac gggggctgtc gtcctttata tagagggaata tggcggttaa 480

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&lt;210&gt; 1670

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1670

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tcgggtgatc cgccgccggt tgataaggta tcggggatgg ctccctgccc ctcccaattt 60
catcagcccg tattcgccgt accgggcgtt cagcgcgaag gtctgccata cgaggacgga 120

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agacgatgcc	gcgccgaagc	cgatacatat	ccactgggtcg	atgccgacca	tgtaaaggat	180
gacgaacagg	acgaagagag	ccagcagacc	tccgcagaag	atgaagaggt	actgagcctt	240
cagacccttg	aactcgaccg	gacggccgat	acccttgttt	atcgggtatt	cagccatacg	300
ttatttatta	aaggaagaat	gagcgcagga	tag			333

&lt;210&gt; 1671

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1671

aatatgatgt	tttttaaacg	tacgttttaa	aaaacatatc	aaaatcaaag	aatgatgaaa	60
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atgaaaacaa	tatttccgga	gcttcggata	gatatgtctg	aatgaagaa	atataaatta	180
cataacggat	atgaattgga	agatgtattt	tccgatccgtc	cccaaacaat	atctgccccat	240
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gaagaattat	ccattcataa	atacacacaa	cacaagagat	ggacattagt	atattacaaa	360
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caacgttcga	gcgtatcaat	tcatatccga	agaggagatt	atacatcagc	taaaaacaaa	540
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catttgaaga	tacatcattt	accccatcaa	tatatatctt	ggaatagggg	ccctgacagt	720
tggcaggaca	tgatgttgat	gagcctgtgt	cgtcataata	taatagccaa	cagcagtttc	780
agttgggtggg	gagcatggct	aaatgcctat	aaggataaaa	ctgttatcgc	accttcacgc	840
tggtcaaacg	tcaagaagac	acctcacata	cttccggaaa	gctggatttc	gatagatata	900
taa						903

&lt;210&gt; 1672

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1672

ttaaataacc	cccataccac	tatgaaagta	tcaattatca	tccatgaatta	taatacctcc	60
cgattaaccc	taaactgcat	taacagtata	cacaaatacc	tgccaatggg	cacttacgaa	120
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taccccaaaa	gaaaaaagaa	agtataccag	tttccatatac	atgcttcattg	gatcaacgga	540
gcattttatga	tgtttctctc	agaagtcttc	ttcaaaatca	aaggctttga	tactaatata	600
ttcctctatt	atgaagagta	tgatatctgt	acaagattat	cttatcacaa	ctatcagtca	660
acggttctgc	caacctatag	atttttacac	ctccaagggtg	aatctacaaa	agttttatgcg	720
ttgggtttaca	aagaaagggt	tatttcaaaa	ttatatgtat	ataaaaagca	ttccaatttt	780
ttattctata	tcatatataa	atggatcatt	ataatcaaat	tatgtttcca	cttcagacgt	840
tggtatatat	tgcccaccat	aatcttaggc	aaaggggtgt	ctcaatcaat	gcgtcataaa	900
tga						903

&lt;210&gt; 1673

&lt;211&gt; 507

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1673

aaggctttac	cagagccgtc	gcttgaaagt	agtgtggatt	gcacgctact	tttttgcacc	60
ttgcccacag	aaaggaaaaa	gactatgggt	aaagttcaga	ttcttgccgt	cctcacgatg	120



gacgggtgtc	attcttcaga	attatatggc	aaagcgtatg	aggatttacg	ccttgaccgc	180
tgcgatattg	acaaaataag	ggaaaacgcg	ctttaccatg	tcacgcgcga	ctactccatc	240
tccatgttgg	acgaatggcg	gaaagacaat	acaaacatct	gctatctcgc	agaagccact	300
cccgataatt	cggactatat	caacgggctg	ttgcgtatgc	gggtgggtgga	tgagattatc	360
ctatataccg	tgcctttcat	atcgggaacg	ggacggcatt	ttttcaagtc	ggcactgccc	420
gaagcacgct	ggacactctc	ctcacaaaag	agttattcca	acggtgtgta	ccggagcatc	480
tacacacgca	tggaaccat	gaaatag				507

&lt;210&gt; 1674

&lt;211&gt; 3069

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1674

tcctccaaac	cgcgtagaat	gaaagaagca	cttaccacga	accaagttgt	cattgtactc	60
gtagagcacc	ctgttttggg	actattactc	gtaccgtaca	ccgtcggccg	ggccttggac	120
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aataaactaa	agcagcaaat	ccgccctttc	atcgagaaaa	agctcttggg	aatgctagaa	360
ctgatatgta	acggacagct	tccgttctat	caaaagccaa	gtggcagcaa	acaactttat	420
gaacaccacg	cgtaccgcgt	ccatcctcac	aacctaaaaa	ctcatttttc	attcaaagta	480
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cgtatcagcg	cagatgcttc	actaacggaa	aaatatatag	ataatatcat	aattcctctc	720
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ggatcatag						3069

&lt;210&gt; 1675

&lt;211&gt; 1167

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1675

aagccggata	caagggtcatg	ctttatcagg	acagagattg	aaaacaataa	caatcaacga	60
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atcatcatgt	ttgccctcgc	tatggacatc	gtaactgcta	acgcgcagga	gaacgtaacc	180
gttggaacgg	acaacggaag	tgaaccgacg	aacgaagcga	gagcagaggc	aagctcgctt	240
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ttcacgatgg	cgaatttcac	catccccgat	gacaagtgtc	tcgtgggtgga	actcaacgag	1080
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accattaacg	aacttcaagt	gcgctga				1167

&lt;210&gt; 1676

&lt;211&gt; 1251

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1676

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ttagttttta	taggaggagt	tatccccgca	aaggcgcaac	tggtagagcg	agtttgccgt	120
accgattata	aaataagccc	cgaacgaaaa	ggagaacttc	ttctggagtt	ggacaatatc	180
agctttttca	aagacaatga	atltgcccgt	acagtataaa	aaggctattc	attgccggga	240
ctctggatac	aaccctaaatt	tgtatattat	cctttgaaga	atatcaaatt	ggaaggagga	300
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&lt;210&gt; 1677

&lt;211&gt; 1284

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1677

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&lt;210&gt; 1678

&lt;211&gt; 2514

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1678

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&lt;210&gt; 1679

&lt;211&gt; 312

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1679

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&lt;210&gt; 1680

&lt;211&gt; 843

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1680

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&lt;210&gt; 1681

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 <212> DNA  
 <213> B.fragilis

<400> 1681

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gcgaaaagtg	tgcgaaaacg	tatcaggcaa	tatcccgaag	atacatcacc	gcaaatacgc	5760
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&lt;210&gt; 1682

&lt;211&gt; 1353

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1196), (1224)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 1682

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gacaaaactca	acacattgct	tataaacgct	ttggtttcta	caggcgagtt	gaaggaaatt	420
gaggaatacag	atggttgactt	tgaccatcag	ttccttgaaa	cggagaagta	tgatgcaaaa	480
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tgcggttct	gctcgaagga	aatcgtcagt	gagatagaga	agcattgcaa	acatttctac	720
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cctgccaaagt	ggatcatgac	tgcnaggcaa	tacgtgctga	atatctacac	agagaaccga	1260
gcttatgcaa	aacccttcaa	aacagaattt	cgattagaat	cctttctttt	ccggttgaat	1320
ctgcgtatta	cctcaagtcg	catcgtgggg	taa			1353

&lt;210&gt; 1683

&lt;211&gt; 1437

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1683

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ttgaaacgtc	agaaaatgat	agtgtgtccc	gctatggtac	tggtatttat	cggggcgatg	240
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&lt;210&gt; 1684

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1684

cctatgaatt	togacaacct	tcaccagatt	ctgcgctcgc	tctacgagca	gatgatgccg	60
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ctccgcccg	tccgccatcg	tctgtgcac	atgttcttcc	cgactgtggt	gttgggcacg	240
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ctggacatga	accgataccg	tgagcagaag	gacaaactgg	aatacgaggc	gatgatgcgc	360
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&lt;210&gt; 1685

&lt;211&gt; 1128

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1685

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gataatttac	cttgtgccat	tgctgtgctg	ggatataccc	ggcttatcgg	aaatatcact	360
ttgtttgccg	ggatttcgaa	tctgaatgaa	gattatttca	caactccttg	tatgtcactg	420
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gatacatata	tacagccggc	aatacatctg	ataaagaatg	gaggaggggt	tcatgaagtt	1080
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&lt;210&gt; 1686

&lt;211&gt; 1284

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1686

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acgaaccgta	tgctcgacaa	gatgcgcgta	cgcacaaaca	agcactatca	ggaaatcatg	300
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gaggcaggca	tgaagcccaa	aggcacgttt	gacaagtaca	agattgttta	caagcacctg	480
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gaatttgccg	gttgcaccat	ctaa				1284

&lt;210&gt; 1687

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1687

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aagtga						186

&lt;210&gt; 1688

&lt;211&gt; 255

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1688

ggttgccttc	tgaataacga	gaatacagcc	aatacaaaaa	tggaacagca	gccaattgct	60
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tttctatcta	ttaagaaaac	gttccttact	aaaacttaca	agttgaaaat	caataaaatg	180
cctccttaca	agaacttaca	tcaaaagagt	tctctctgcg	agaagtcata	actctcctta	240
ggcagcacta	actga					255

&lt;210&gt; 1689

&lt;211&gt; 345

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1689

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&lt;210&gt; 1690

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1690

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ctgcgggtag	tatttttccc	gaaaaacctt	gcattcccta	atccctacct	ttttaagcac	120
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<210> 1691  
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 <212> DNA  
 <213> B.fragilis

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 <211> 2358  
 <212> DNA  
 <213> B.fragilis

<400> 1692  
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 gaaacaatac tggaatggaa cgataaagat atcgagcatt accatgcacg gcgtatggca 300  
 atggacagta tgctctgccg tttcaaggcc acctatccag cagagcgcgt cgatagtgtg 360  
 cgcagtcttt tagaggataa ggaacgacag atgttccaga tagtccgggt aatggatgaa 420  
 caacaatcta ttaacaagaa gatagccaat caaattccgg ttattgtgca gaaaagtgtg 480  
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gaaaaagaga	tgcagacaat	acgggaagcg	gcaacagaaa	aagacctgca	aaagctggat	2160
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gtactttaca	gattgcttca	tggcgatgta	ctcccggatg	gtgaagcggt	aagccatgcc	2280
gtgactgccg	tgctggataa	gggagcggaa	ataatccggt	tggcagaaga	ggaaaggaga	2340
aaatacgaag	atggataa					2358

&lt;210&gt; 1693

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1693

aaacagattc	atcaactaaa	aaagaaaatg	cgtatgagta	tatcaagaac	gaaaatgctg	60
caagtcagca	agtggttaat	cggactggca	gtcatgatgc	tgcaatcctg	tgatgtagcg	120
gacaaccgcc	gcgacctact	ttgcggaaac	tgggagagcg	tggagggaaa	gcccgcagtg	180
cttatctaca	aggaggcgga	agcctataag	gtgacgggtg	tcaagcggag	cggtctgcgc	240
cgtaagctga	aaccggaaac	ctatctcttg	caggaagaaa	acggcaacct	gtttatgaac	300
accggattcc	gtatcgacgt	gtcctacaac	gaagcgacgg	acatcctgac	cttctcgccc	360
aacggggact	atgtgcgcgt	gaacccgaaa	ccggatcatc	cgataggcga	gcaataa	417

&lt;210&gt; 1694

&lt;211&gt; 402

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1694

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gctctgaaag	gcagtaagggt	ttacattctt	cgtgaaaaac	tgaacaacgg	aggacagatg	180
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tgccaatac	gacattggac	ggaatacaag	gcaacggaca	agaccggact	tcgcagatac	360
ctatacggca	ggatagacaa	cattgtagaa	cttgaaaaat	ag		402

&lt;210&gt; 1695

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1695

cttaaaaatc	aatgacaat	gaacatactg	aacaacaaga	acaagagaat	atcaatcttc	60
aaggcgttgg	cactctgcct	gttcgctgcc	gtatcgctca	cgctcgtgtc	gtgtgacgat	120

gacatggaca	tccagcaatc	ctatcccttc	acgggtggaaa	tcatgcccgt	acccaacaag	180
gtaacgaagg	ggcagacggg	ggaaatccgc	tgtgaactga	aaaagacggg	cgattatgcc	240
aacaccctct	ataccatccg	gtatttccag	ttcgaggggg	aaggcacgct	gaaaatggac	300
aacggcatca	cgttcctgcc	caacgacggc	tacctgctcg	aaaacgagaa	gttccggctg	360
tactacacgg	cggcgggtga	ggaagcgcac	aacttcatcg	tggtgggtgga	ggacaatttc	420
gacaactcct	acgagctgga	atttgacttc	aacaaccgta	acgtgaagga	tgacggggct	480
atctctgttg	tccccatcgg	aaacttcaaa	cccctcacac	gatga		525

&lt;210&gt; 1696

&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1696

ggattaaaaac	acttatctat	atatggatcg	ggaaatacca	cttttacaaa	tgggaataaaa	60
agccatgatg	aactgcaa	gtctatctat	ggctcgggaa	acatcagcgg	aaacagtttc	120
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gtagagaatg	tcaatgcacg	tattagcggg	tccgggcagta	taagatgtta	cgccacagaa	360
aatctgacag	gaggagtcag	tggcagtgga	aacgtagcct	ataaaggcaa	cccgcacaata	420
aactttttcta	aaagaggact	acagaaactc	taa			453

&lt;210&gt; 1697

&lt;211&gt; 1302

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1697

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acatgccaga	tttttataga	gcaacgtcag	caaactatag	atttaaacga	agagcaaaaa	300
aggataacgt	caaattctca	aaagtcacaa	ataaatcaat	ctgaaataca	gcgattcaat	360
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&lt;210&gt; 1698

&lt;211&gt; 1161

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1698

cccaatatgc	aagaaactaa	tagtaaaatt	aacaagtatg	attacttaat	tgtaggagct	60
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cttgagaaac	gcccattggac	tggcggtaat	atattattgtg	aaaatatcaa	tgagatacat	180
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tctcaaacaa	aattaatcta	a				1161

&lt;210&gt; 1699

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1699

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caggaaacgg	tacggggaggc	atctcccgca	gaaacatcgg	acatcatcgg	caagagccgt	240
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gtgtcccacc	cggcacaagt	cccggaggaa	aaactcgaat	aaaccttcac	gagcatcccg	420
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aatattcggg	actatgtata	a				741

&lt;210&gt; 1700

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1700

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gtgttgcaaa	aagaaaacaa	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
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tcagcgagat	ag					252

&lt;210&gt; 1701

&lt;211&gt; 1359

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1701

tccggttggc	agaagaggaa	aggagaaaat	acgaagatgg	ataagacaac	aataattgtg	60
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&lt;210&gt; 1702

&lt;211&gt; 1302

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1702

tttttattta	atatttgtaa	tatgagaagt	ctgtttttta	tattcttttt	ttgctatgta	60
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&lt;210&gt; 1703

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1703

cacagagtta	aaacttgttc	tttggtatgtg	aataagaagt	tcttttaa	caaaaggctt	60
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ttgaaaataa	agaaataa					258

&lt;210&gt; 1704

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1704

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&lt;210&gt; 1705

&lt;211&gt; 2826

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1705

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gagtaa						2826

&lt;210&gt; 1706

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1706

atccaaagta	atatgagtga	aaaaagaaga	aacaaaggcg	ggagaaatcc	caaactcgat	60
ccggcgggtgt	tccgctacac	cgtccgtttc	agcgaggagg	aacacaaccg	tttcctctcc	120
atgttcgaga	agtcggggcg	ttacgccaaa	tcagtttttc	tgaaggcgca	cttcttcgga	180
cagccgttca	aggtgctgaa	agtggaacaag	acgctgggtg	attactacac	caaactgtcc	240
gattttcatg	cgcagttccg	cgcgataggt	acaaattaca	accaagttgt	gaagggaactg	300
aggctgcatt	tttccgagaa	aaaggcgatg	gcgttgcttt	acaagctgga	acaacagacc	360
gtagaacttg	tgaactgag	ccgtaaaatt	gtggaacttt	caagagaaat	gcaggaaaaa	420
tggtcgcaaa	aatcagtgtg	g				441

&lt;210&gt; 1707

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1707

aaatgtataa	aaattatggg	taagaaaatc	ttcgcgacct	tgatagtcgc	tgtagtcgca	60
actttttgcag	gctacaatat	atatcagtca	cagagagcga	aaaatacaat	gtcgggaattg	120
gcgatggcta	atgtggaagc	attggctgat	attaatgaaa	cagattcttc	tgggcaaaaca	180
ttatatgtgt	gcggtaatga	agatacatgc	gctaaaggag	aagatgagga	tactggcgaa	240
gagtttatca	ttcatgggtg	actatctagt	aaaaaatgta	aataa		285

&lt;210&gt; 1708

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1708

agattgataa	aactctattc	tcctatgata	catatagcat	gtaatattga	ctctaatttt	60
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ttttctatca	agaagtttgg	taagcgcatt	tctatggcta	cttattaccg	ttgtatgttc	300
tcagccattt	taccggaaga	ggtggataaa	gtgctttatc	tggattgtga	tattgttatt	360
cttggagata	tatcagagta	ttggaataca	gatatgagta	attattcggt	tgccttgtgc	420
gaagatatcg	gcagtaatga	agatgaacgt	tatgatctct	tgaaatatga	taagtcatc	480
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aaacggcctt tatctacttt taaagctcgt ttgtcctggg ggttgaagtc gcttccttat 900  
gcactgcggc tccgtaagcc caagtatgta aatttaattt aa 942

<210> 1709

<211> 597

<212> DNA

<213> B.fragilis

<400> 1709

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aacttcacgg	tggaggaact	gggagccatc	gctttcggct	acaccaagct	gttggaggaa	360
tccaacgacg	tgctgacgga	actgaagaac	gtggtgaata	tcaccacgct	ctccatgacg	420
gacaaggagc	gcatggatgt	ggtggaacgc	tgctactcca	agatgaagcg	ttaccgcaac	480
ctcgtgagct	attacaccaa	caagaacatc	agcgtgagct	acctgcgggc	aaagaagaag	540
aacgaccttg	accgcatcat	ggggctgtac	gggaacatga	acgaaagata	ctggttag	597

<210> 1710

<211> 810

<212> DNA

<213> B.fragilis

<400> 1710

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ggagacgatt	catttaataa	tattgaaaat	ggtgtctgga	ctgcttatta	tccgaataca	180
aatcagacgt	ctatcaccat	ttatggagga	gtaaaaccct	ataccgtaag	tagcaattct	240
gatatcctaa	aagtgaatat	ggataagctt	tccgatgctt	tcaactacga	aacactgggc	300
gttggatgat	cgggaagtgc	tattaccgat	gcgaaagggtg	aatccgtcgg	tttaaaagt	360
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gcggttggga	atagttcata	tccgaaatat	gaaataaagt	tggatgggtat	ggaaaggaca	660
tatatgttc	agagatatta	tccgtcgaag	acacgaagt	tggctatggt	gccttatggc	720
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accatgcagg	ttgtcagtgc	ggttttctga				810

<210> 1711

<211> 243

<212> DNA

<213> B.fragilis

<400> 1711

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gcttttaggaa	tggagaacac	cgatggggct	aaagactatt	ggtgttggg	aatgaggat	180
gtttgtgcag	agggacctca	ctataaaata	aaaggaaaac	ttaaagagaa	tccttgtaaa	240
tga						243

<210> 1712

<211> 900

<212> DNA

<213> B.fragilis

<400> 1712

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&lt;210&gt; 1713

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1713

aatgttttga	atatggaaat	tgtatctatc	gagaaaaaga	ccttcgagat	gatggtggca	60
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ttgcagacgt	tgccgcgaaa	gcggcttata	ggctactcgc	agataaaccg	caggttctat	240
tacaagccgg	aagaagtcag	aaggctgatt	ccgcttatcg	gcacgctcta	tcccggcggc	300
aggttaa						306

&lt;210&gt; 1714

&lt;211&gt; 1914

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1714

aaacaactga	ataacagaaa	aatgagaaa	tggcgtattg	aagattctga	agaactttac	60
aacatcacag	gttggggggc	ttcatacttt	ggtattaatg	acaaggggtc	tgttgttgtt	120
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&lt;210&gt; 1715

&lt;211&gt; 1467

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1715

cttattatga	aaaaactatt	ttattggatt	ctttcatcta	ttgttttggt	ttcgtgttct	60
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gatgggcttt	atgatgtgct	tggttatgga	tatgatatta	caaaggagta	tttgcaccct	180
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gttggctatt	tttacgatgc	ggatttaa				1467

&lt;210&gt; 1716

&lt;211&gt; 1053

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1716

ccaatcatga	aagtaattgt	agataacaaa	ataccttaca	tcagagaagc	tatcgaacaa	60
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gaaggtgcgt	atcggatcgt	aataactaaa	taa			1053

&lt;210&gt; 1717

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1717

caggacatga	attatTTTTT	attggcggaa	accgatttct	tccgccggat	aaacgaagcc	60
ggggactgca	atatggaaaa	agcatacacg	gttttcgccca	cccaagtgat	tgaactgtgt	120
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gagatggagc	gcatgagaag	atag				624

&lt;210&gt; 1718

&lt;211&gt; 792

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1718

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ggtgtgtctg	aggttgtaat	taccttagca	tcagctattc	atacagatgg	gggaactcgg	780
ataaaaaaat	aa					792

&lt;210&gt; 1719

&lt;211&gt; 1518

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1719

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&lt;210&gt; 1720

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1720

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&lt;210&gt; 1721

&lt;211&gt; 411

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1721

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&lt;210&gt; 1722

&lt;211&gt; 1800

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1722

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&lt;210&gt; 1723

&lt;211&gt; 1470

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1723

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 <211> 1032  
 <212> DNA  
 <213> B.fragilis

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 cctaaaaaaa cgattcgtca gcatttggtat tataagttca ttatggcatt ggaggggaat 720  
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 attgaagatt ga 1032

<210> 1725  
 <211> 1977  
 <212> DNA  
 <213> B.fragilis

<400> 1725  
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 ggcatacaag cgcaaacaaa gttgctgttc aatactttac aaaaactgca aatcccga 420  
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&lt;210&gt; 1726

&lt;211&gt; 2112

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1726

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&lt;210&gt; 1727

&lt;211&gt; 750

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1727

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&lt;210&gt; 1728

&lt;211&gt; 702

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1728

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&lt;210&gt; 1729

&lt;211&gt; 1800

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1729

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&lt;210&gt; 1730

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1730

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&lt;210&gt; 1731

&lt;211&gt; 1839

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1731

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ggatattata	aacgactgaa	tgatatgcag	tcactatag			1839

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 <211> 408  
 <212> DNA  
 <213> B.fragilis

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tattttcccg	ttcccacaac	gacggtatgg	accgacattg	taggcgagcg	tggcaaggag	360
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<210> 1733  
 <211> 360  
 <212> DNA  
 <213> B.fragilis

<400> 1733						
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 <212> DNA  
 <213> B.fragilis

<400> 1734						
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&lt;210&gt; 1735

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1735

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aaagaagata	tagccttcta	caaggctcgt	atccataatt	tctttcaaaa	ataa	354

&lt;210&gt; 1736

&lt;211&gt; 1230

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1736

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&lt;210&gt; 1737

&lt;211&gt; 891

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1737

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&lt;210&gt; 1738

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1738

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&lt;210&gt; 1739

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1739

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&lt;210&gt; 1740

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1740

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cacggttttc	gccacccaag	tgattga				207

&lt;210&gt; 1741

&lt;211&gt; 2424

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1741

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&lt;210&gt; 1742

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1742

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&lt;210&gt; 1743

&lt;211&gt; 1962

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1743

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tatataaagg atgctatttt gttttagtag ccctcagaat aa 1962

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&lt;210&gt; 1744

&lt;211&gt; 543

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1744

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taa

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&lt;210&gt; 1745

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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 cagaatgttg aagcattggc tgaaggtag gaatatcac atatttcttg tatagggtga 240  
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<210> 1746  
 <211> 597  
 <212> DNA  
 <213> B.fragilis

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<210> 1747  
 <211> 819  
 <212> DNA  
 <213> B.fragilis

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 attactccgg taaaagattc tatcgagttg acgttgcaaa cggctgaagc tattttaaaa 180  
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<210> 1748  
 <211> 351  
 <212> DNA  
 <213> B.fragilis

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 gacaggcttt cgctgtccgc ctacatcgac catgtgctta cgcaccactt caaccagtgc 300  
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<210> 1749



<211> 1884  
 <212> DNA  
 <213> B.fragilis

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 aaaaaactca gtaacaatga atag 1884

<210> 1750  
 <211> 483  
 <212> DNA  
 <213> B.fragilis

<400> 1750  
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 acacgccagt gcgtctatat cagccgcgac gtacacagca agattcttaa aatcgtgaac 360  
 gacatcgccg gacgggaaat ctcggtaggg ggctacgtgg acaccgtgct gcgccaacat 420  
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 tga

<210> 1751  
 <211> 1320  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 1751

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&lt;210&gt; 1752

&lt;211&gt; 540

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1752

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&lt;210&gt; 1753

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1753

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&lt;210&gt; 1754

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1754

tttaggctta	tgaaccgag	aacacagata	cagcaggaag	tcgcacatct	gagcaagcga	60
ctaccgagat	tgaccgccac	gcaaaaggca	tacgctttcc	gtcattgctt	caagcattac	120
gcaatcaaga	gggcggaagg	cacgaatata	tgtaccgagt	gcggacattc	gtggaagagc	180
gaccacgacc	ttgcggacac	catttgcgga	tgtacctgcc	cccattgcgg	tatgcagttg	240
gaagcgttgc	gcacccgaaa	gagcgttttc	agcgagaacg	aatactttct	cattgtcacg	300
accagcaagc	agtaccaagt	gatacgcttc	ttcttcgtca	agtcccgata	caaggcaggg	360
caagcagccg	agtattccat	ctatgaagtg	gtgcagaggt	ggatttcacc	cgatggaaag	420
acaacgaccg	ttgcccgaact	gcgtggtatg	tcaatgttgt	attatgacca	atggtctgaa	480
tacagcgaca	tggagggtgcg	caagaacaac	ggacttcacg	catacgatat	aacacctatg	540
tgtacctatc	cccgcagcgc	tttcatcccc	gaattgaaac	gtaacgggtt	caagggggac	600
taccacaaca	cactgccgta	tgaccttttc	acggctatcc	tttccgacag	ccgaaccgaa	660
acactcttga	aggcagggca	atacgccatg	ttgcgccact	atatccgcag	ttcctttgac	720
atgggacggg	attgggcata	cgtcaagatt	tgcataccgc	acggctacac	catttcggac	780
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tgtgtgggcg	gttatcaca	caaggcaaac	tcccttatcc	tatccgccac	cattgacggc	1140
aaacggattg	aaacgataga	ggtgtcactg	aaaacgctga	aagtgggtaca	gagcagaggg	1200
gtatgcaatt	ccaataccga	gtaccacgac	cgcatactcc	ggcttgtgga	ggacaatgcc	1260
ggacttatcc	gtcagcggat	gaacgcagca	ttaa			1293

&lt;210&gt; 1755

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1755

tatcaaccta	taataaagaa	taatatggac	gtaagatttg	aaagcatggg	ttgcttgtgg	60
gacgataaaa	tccccacgat	gttccttgaa	tttatgaacc	tctcactttt	ttgtcagagt	120
gaggagcagt	taagggcggg	tgtaaaagac	ttttccgaga	agcacgaact	tgacaagttc	180
ttccttttac	gcttcggctc	acaccatttc	tacctgcacc	aacgctatac	gagtaacccc	240
gaaatggtga	tgcagaacag	agttttgtca	gtacattttc	aa		282

&lt;210&gt; 1756

&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1756

aaaagactct	ttatgtacag	catactaata	attgaagacg	aacagcgggt	ggccgatttg	60
cttcgcgcgc	gtttggaaga	gaacgggttac	aactgtctgg	tagcttacga	tggagctatg	120
ggactgagaa	tgttcctgtc	aaatacgttc	gaccttgtca	tttcggacat	tgtgctcccc	180
aagatggacg	gatttgaatt	gtgcaaagag	attcgggctg	ctaaccctgc	cattcctata	240
ctgatgctca	ccgcattggg	cagtacggac	gacaaaactg	atgggtttga	tgcgggagcg	300
gatgattaca	tgggtgaaacc	cttcgacttc	agggagctgt	atgcccgat	ccgagttctt	360
ctgaaacgaa	aacttgcagt	agtgactgat	gtggaggaag	agttaaatta	tgcagactta	420
tccgtaaacc	tgttggacaa	gagcgtaaag	agggcgggac	gggacattaa	gctctctccc	480
aaagaataca	acctgctggt	atatatgata	gagaatgcag	agaaagttgt	cagcgggatg	540
gatatagccg	acaaagtgtg	gaacacgcac	tttgacacgg	gtacgaactt	cattgatgtc	600
tatatcaact	atctccgtaa	gaaaatagac	cgtgacttcg	atactaaact	catacacaca	660
aagacaggca	tgggatttat	tctcaccgat	aagttatga			699

&lt;210&gt; 1757

&lt;211&gt; 1104

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1757

ttttgcggta	tgatggaaaa	aaacaaacga	gtcttggttg	gaatgagtgg	cggtacagac	60
agttctgtgg	ctgctatggt	attgcttgaa	gccggttatg	aagtaacagg	ggttactttt	120
cgtttttatg	agttcaacgg	ttctactgaa	tatttgaggg	atgcccggtg	gtagctgct	180
cgtttgggta	tcggtcatat	tacgtatgac	gctcgcaaa	tttttcaaga	acagattata	240
gattacttca	ttgatgaata	tatgtccgg	catactccgg	tgccctgtac	tctttgcaat	300
aatcagttga	aatggccctt	gttggcaaaa	atcgccgatg	aaatgggcat	tttttatttg	360
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aggggatttg	aaaagatctc	gaaaaagaaa	gatagtatcg	gtgtttgttt	ttgtccgctc	600
gattatcgta	gctttctgaa	gaaatgtcct	tgtgatgagt	ccggagataa	gaaccgtaac	660
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cacgagggat	atccttttta	tacgattggc	caacgtagag	gattgggcat	tcagttgaat	780
cgtgctgttt	tcgtaaaaga	aatccatccg	gaaacgaatg	aagtggattt	ggcatccttg	840
aaatcacttg	agaaatcaga	aatgtggctg	aaagattgga	acatagtgga	tgaatctcgt	900
ctgttgggct	gtgatgatgt	catagtgaag	atacgggtatc	ggaaacaaga	aaaccattgt	960
tcggttacaa	tactcctga	agggttgcta	cacatacgat	tgcacgaacc	tttatctgct	1020
attgcagaag	gacaagctgc	cgctttttac	aaagacgggt	tgttgttggg	aggagggatc	1080
ataacgatga	gcgatcaacg	atga				1104

&lt;210&gt; 1758

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1758

atatctatct	ttgtgcgaaa	atgccgtttg	cttatgatcc	gtatatttct	gaccggctat	60
atgggagccg	gaaaaaccac	gttaggaaag	gctctcgcac	gagaactgca	catcccattt	120
atcgatttgg	actggtatat	tgaagagcgt	tttcacaaaa	cggtcggaga	gttgttttct	180
gaacggggag	aagccagttt	tagggaactt	gaaaaagaaca	tgctacatga	agtaggtgag	240
tttgaggatg	tggatgatctc	tacaggagga	ggggcgccct	gctttttcga	taacatggag	300
tatatgaatc	gggtggggac	taccgtcttt	ctggatgtag	accccaaggt	attgttttagc	360
cggttgcggg	ttgccaacaa	acagcgccct	atattgcagg	ggaagaaaga	tgacgaacta	420
cttgatttta	tcgtacaggc	actcgaaaaa	cgtgcgcctt	tttatcgta	ggctaattat	480
atctattgtg	cagacaaact	ggaagaccgt	agtcagattg	aaacatccgt	gcaacaactg	540
cgtaaacctt	tgaacttaca	tatagcaagc	taa			573

&lt;210&gt; 1759

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1759

ttcgatttca	tcagtatgga	attaaagaga	gttgtagtaa	caggtctggg	cgccattact	60
cctgttggca	ataatgtccc	ggaattcttg	gagaacctcg	tgaacggggg	tagtggagca	120
ggacctatta	ctcatttcga	tgcacgcgaa	ttcaagactc	aatttgcag	tgaagttaaa	180
ggcttcgatg	caactcaata	tatcgaccgc	aaagaggctc	gtaaaatgga	cctgtacaca	240
cagtatgccg	ttgccgttgc	caaagaagca	gttgcagact	cgggtcttga	tatcgaaaat	300
gaggatttaa	acagaatcgg	cggtattttt	ggtgccggta	taggtggtat	acgtacattt	360
gaggaggaaa	cgagtaatta	cgcccttcac	aaagaaaacg	gtcctaagta	caatccgttc	420
ttcatcccta	agatgatttc	agatattgct	gccggacaga	tttctattat	gtatggcttc	480
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gcattcaacc	tgatccgtct	gggtaaggca	aacgtgattg	tatccggtgg	ttcggaagcc	600
gctatcgcag	ctgccggtgt	aggaggtttc	aatgctatgc	atgcattgtc	aactcgtaac	660
gacgaaccac	aatctgcctc	tcgtccgttc	agtgcaagcc	gtgacggctt	tgtaatgggt	720
gaagggtggtg	gatgtttgat	tcttgaagaa	ctggaacatg	caaaagcccc	tggcgcaaaa	780

atctatgcag	aagttgccgg	cgtaggtatg	tctgctgatg	ctcaccacct	gacagcatct	840
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agtcctgaag	aagtggtatta	catcaatggt	catggaacat	ctactccggt	cggagatata	960
tcggaagcca	aagcaatcaa	agaagtattt	ggtgaacatg	cttttgagtt	gaatatcagt	1020
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agtatcctgg	ctattaagaa	cggcatcggt	cctccgacta	tcaatcatgc	cgaagggtgac	1140
aatgacgaga	acattgacta	taattctta	ttcacgttca	acaaagcaca	gaaacgcgaa	1200
attaatgttg	ccctttcgaa	tacattcgga	ttcggcggtc	acaatgcttg	tgtaatcttc	1260
aagaaatacg	ctgaataa					1278

&lt;210&gt; 1760

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1760

catacgttca	tttccaataa	aatacactct	tttcgtaact	tcacattaca	aaatactggt	60
aaggctttac	tagttattga	tgatgtgaat	acttcttgcg	gttgacttcc	tgtacagtat	120
tctaaagaac	ctgtcaaac	tggggaggtc	ttaagaataa	ctgtgatcta	taaagcggat	180
catccggaac	actttaggaa	aactattaca	atatattgta	atgttctctac	ttctcctctg	240
caattgaaaa	taactggaaa	tgtgaataa				270

&lt;210&gt; 1761

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1761

tttaacctaa	tagactta	tatgaatgta	gattgtgtga	tagttactta	caataggcta	60
tctttgttaa	aagagtgtat	tactgcagtg	aaggccaat	catatcctgc	acgcaagatc	120
tatgttatag	ataataactc	tactgatggg	acgttggagt	ttcttgaaaa	attttcacaa	180
gattctcagg	tgaaagttat	taacttgact	gaaaatatag	ggggagcagg	tggtttctcc	240
cgagggtatta	aagaggctgt	aatggctggt	gctgattggg	tttgggttat	ggatgatgat	300
acaatacctt	atagtgatgc	gctggagaaa	atgctgaaaa	caattgat	gacaaaaaat	360
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actatgcgta	tatcttcatt	gggatata	ggcttttatg	tagataatag	tattgtattg	660
cataagactc	ctactaatta	tcagccatat	cctgatacgg	ctcctactaa	tacagcatgg	720
aagttttatt	accaaagcag	taatactgcg	tatttgaaaa	gaagaaagac	gaaaaataga	780
ttatgttttt	tggtatctat	tataaataaa	tatagagtgt	atatacatcg	tattaataaa	840
cgaaaaacta	atgataaatt	gatattttaag	aagtatgtaa	gaaaaggatg	ttgggacgga	900
ttaaccttta	atcctcaaat	agaatattta	ccataa			936

&lt;210&gt; 1762

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1762

atcttatacct	ttctgcaagt	atctgtagga	tggaactgc	atcttttttc	tttttgggca	60
gcccttatta	aaattttattc	ttatttttagg	ttatatacat	tcattgtccat	ttatgtaaaa	120
aatcctgctg	accttggttta	tgtcttgtca	gtcaccattt	gcaaaaccat	atttgacct	180
caaagaggct	ga					192

&lt;210&gt; 1763

&lt;211&gt; 489

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1763

aggaataaaa	taatgaagag	cgttctttta	atgtgctgga	tggcattgct	gtctgtggct	60
gtttcggccc	aggactttga	ttcacgtttc	atggctgaac	atcaggcaga	ttccaatctg	120
acttgtgtta	cgatcagtc	gaaaatgatg	gaggagatta	tgaaaagcga	tgctgaaaaa	180
gataaggagg	tgctggatat	gatctcta	ctcaaaagca	tgcagggtgct	tacttctgat	240
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aaaaaaagta	cgattgttga	actgggtgat	ttgatgcacg	aaaagaatca	ctttgctgtg	420
gtaaaacttta	cggggaatat	gagtcaggag	tttattgcac	aaataaaaag	acattttcat	480
ttgcttttaa						489

&lt;210&gt; 1764

&lt;211&gt; 1371

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1764

gttatgaaaa	taagaagtat	ccttaccatt	aaatatgcag	gtatcacggc	cactatcttt	60
ctcgtgttta	tggccactat	ctattgtgtg	aacgaacatc	tgcgcagtga	ttctttttat	120
cgtagcctgc	gaagcgaagc	tatcactaaa	gcccatctgt	ttcttaacaa	tcagggtgat	180
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atcggaatga	cgtttacaaa	gaagatactc	accctccata	agagtggatg	ctcgggtgat	1320
tcacaccaag	gagagggcac	tacctttgtg	gtaagggttc	atcatttata	a	1371

&lt;210&gt; 1765

&lt;211&gt; 2664

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1765

agcgcaaa	ttatgatttg	gagaaagaaa	gaaaaaaaga	aagcgcagta	tcaattttaat	60
tccgaacggg	tatttctggt	tgccacacaa	cctgctaaga	ctgcatattc	ttattttccag	120
acttcgagtg	tgggactgag	tgaagaagag	atcgggcaac	gacaatccgc	ctatggtaaa	180
aatgaaatct	cacgagagca	aaagaagaat	ccactcgtac	ttttcatccg	tacgttcac	240
aatccgttta	tcgggtgtgt	gacggcgctg	gctgtcatct	ctctgggtcat	cgatgtagta	300
atggcccgtc	ctgaagaccg	tgagtggacg	gctgttctga	ttattatctc	gatggtagtt	360
tgcagtgcga	ttctccgctt	ctggcaggag	tggaaagcaa	gtgaagctac	tgactcattg	420
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gatgatcatt	cccgaaggat	attgcgccac	gcattcctta	acagttactt	tcagacaggt	1200
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tcggtagtta	ttgaagatca	gcagggaaaa	aggcaaatac	tcacgaagg	agctgtggag	1380
gagatgctga	atatttgctc	tcatgccgag	ttcaacggtc	aggtatatga	attgaccgat	1440
aaactcagaa	gtaaggcaaa	gagaatcagt	gatgatatga	atcgtaacgg	gatgcgggta	1500
cttgccatcg	cacaaaaaag	ctttatcagc	aaggcacggg	actttgccgt	caccgacgag	1560
gacgagatgg	tacttatttg	ttacctggcg	tttcttgatc	cccccaagcc	ctcttctgcc	1620
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cttttggaca	aagatttgag	tgtgctcaaa	gagggtgtct	tggaaggcg	taagaccttt	2040
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gccacctggc	cgggtgctggg	gttgaccttc	ctgatcatgg	caatgggcat	agctattcct	2520
ttcacatcgt	ttggcctgtc	gataggactt	gaaccgttac	cgttgagtta	cttcccctgg	2580
ctgggtgctta	tcttggtatc	ctactgtgtt	cttacacaat	ttatgaagag	ctggtatatt	2640
cgaagatttt	cgaaatgggt	ataa				2664

&lt;210&gt; 1766

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1766

ttggcacacg	ttcgttcaaa	atccttttgt	acgatgggtg	gccgaagaa	aaagccgctt	60
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atgcagtag						189

&lt;210&gt; 1767

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1767

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tcatttaaag	aaataaattg	tattataatc	gagagaaatg	catatctttg	caacgagaga	180
gatacaagca	agtaa					195

&lt;210&gt; 1768

<211> 1317  
 <212> DNA  
 <213> B.fragilis

<400> 1768  
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 gtcgagatcg acagtgccga acttggtgag cgacgcggac agtgcttctt cgggtga 1317

<210> 1769  
 <211> 381  
 <212> DNA  
 <213> B.fragilis

<400> 1769  
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 gaacagttta tgaacaagaa catcagacaa aagttaatca tctctgcggc acttatgatt 120  
 gccgcaaccg cctccgcatt tgcgcaggga aacgggtctg caggatatca cgaagccacc 180  
 tctatggtga gttcgtatth cgaccccggc acgaaactta tctatgccat cggcgcggtg 240  
 gtcgggctta tcggcggcgt gaaagtctat ggcaagtht cgtccggcga cccggacacc 300  
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 ctgcgctcat tcttcttht a 381

<210> 1770  
 <211> 249  
 <212> DNA  
 <213> B.fragilis

<400> 1770  
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 tctcttgaca ctgtagaact tatcatggaa ttcgaaaaag aattcggat ctctattcct 180  
 gatgaccaag ctgaaaagat tggcacagta caggatgctg tagcttacat cgaagaacac 240  
 gctaagtaa 249

<210> 1771  
 <211> 1056  
 <212> DNA  
 <213> B.fragilis



&lt;400&gt; 1771

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gctattaatc	attacgggat	ggaagttgta	gggattcaca	gtggttttca	gggactgttg	180
acgaaagaag	tagaatcggt	tactgaaaaa	tctttgtccg	gattgttgaa	tttaggcggg	240
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gataaacctg	cgtaataaca	acgtaatat	gcagaattgg	gtcttgattg	tgtagtgtgt	360
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&lt;210&gt; 1772

&lt;211&gt; 1176

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1772

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aaatctccca	agaccttggt	ctctagcgtg	tcagagatat	cagaagttga	atggagtata	240
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tattatatta	ctatagataa	aacattacaa	agaatgtacg	cagtgggtgag	aaagccagat	1140
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&lt;210&gt; 1773

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1773

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gaaaaaaatg	cttctgttag	agtgagattg	gttctttcta	acaggaaaga	tgcgatgtt	180
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gctgcggagt	ccatcttgga	tttgcctgct	aaatatcaga	tagactttat	tgtgctggcc	300
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cattacgatg	agggaagtac	tgtttttccag	gcaaaatgcc	cgggtacttcc	cggagatacc	540
cctgcggatg	tggctaaaaa	agttcatgca	ttggaatatg	aatggttccc	caagatcata	600
gagcgcgttg	taaacagctt	ataa				624

&lt;210&gt; 1774

&lt;211&gt; 243

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1774

cccgtacttt	cgttccagtt	cgcgtgttat	ctgcttgctc	cggtaaaaat	tgttccgggt	60
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gatgtcctcg	tgcttgaaaa	cagagatacgg	ctgggttgccg	aagcccatct	tctccagata	180
ctcccgtgcg	atattctgaa	gctccgtgtc	cgtcaaaaata	tcgtcgggat	gcggattgag	240
tga						243

&lt;210&gt; 1775

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1775

tcttattatt	caccactga	atccaaaagtt	atgatgaacg	agaacaacga	tgtttttaca	60
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gaggtggcgg	agctgctccg	tgtgagccgc	cgtaccttgc	aggaataccg	caacaacaga	240
gtgctgcctt	ttatcctttt	aggaggaaaag	gtgctttacc	ccgaatcggg	attgcgtgaa	300
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&lt;210&gt; 1776

&lt;211&gt; 206

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1776

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gatatcttgg	cgaacaattt	aaataa				206

&lt;210&gt; 1777

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1777

catccgggaa	ttggttcagg	caaaattggg	ttcctggttg	aaggaaattg	tcatgaaaaa	60
aaaaagcttg	caaacatttt	aaatccgggc	caaccgaaca	ggttggttct	acaatacatt	120
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atctacacag	agaaccgagc	ttatgcaaaa	cccttcaaaa	cagaattcgg	ataa	654

<210> 1778  
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 <212> DNA  
 <213> B.fragilis

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 atcatttcat atatcgata tatcactaaa gaagttccgg taggtaataa tacctcactt 180  
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<210> 1779  
 <211> 291  
 <212> DNA  
 <213> B.fragilis

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<210> 1780  
 <211> 414  
 <212> DNA  
 <213> B.fragilis

<400> 1780  
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&lt;210&gt; 1781

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1781

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acaaagatag	aatttatatta	a				1221

&lt;210&gt; 1782

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1782

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gtcagatata	gtatgtact	gccaaatgta	cgtaaagata	aggagatctg	caacgaaact	240
aagaactgtt	tcgtcctttc	aatgcaggag	gaaaggaagt	aa		282

&lt;210&gt; 1783

&lt;211&gt; 639

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1783

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gaactcaacc	gctttcagaa	tctgacatac	aatgaaatag	ccgaacgact	gggagtgtct	540
cccaaaacaa	tcgattaccg	gattcaacag	gccttaaaac	agttgcgcac	cgacctgaag	600
gagtatctcc	ccttattact	tcctttcctc	ctgcattga			639

&lt;210&gt; 1784

&lt;211&gt; 200

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1784

tcctttccagc	cccgtggtga	agaccattac	tggatatcca	gtaatgccgg	gttgataacg	60
atcaatccga	tcacaaagca	gcatttcgcg	caatttacgg	tgaatgacgg	actgcaaggc	120
aatcagttta	cagcccaatc	ttcattgaaa	acagcaagtg	gtaaaactct	tttcggcgga	180
atcagtggct	tcaattctgt					200

&lt;210&gt; 1785

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1785

ctcttcagat	tatgtttgtac	tttcatgcaa	atgaaaaaaa	gcaatattta	cataggtgaa	60
attatcaaaa	atgtgatgtc	tgagagacag	gttacaaaag	ccgaactcgc	aagacggttg	120
gatgttaagc	ctcaaagtgt	agattactta	ctgacaagga	aaagcatcga	cacggatata	180
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gaacagagaa	attctgataa	cgaagggtatc	agatataaac	taggaaatgc	caaaattatg	300
gtagagatag	aattacagca	agatgaaatt	ataaagctta	atttgaaaaa	gaaaatagca	360
gaactgttgg	atggaggggc	taataaatag				390

&lt;210&gt; 1786

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1786

cacaggaaaa	catctcctat	acttccgacc	aaggcaagac	cctatgattt	caatactgca	60
gacaaactca	acacattgct	tataaacgct	ttggttttcta	caggcgagtt	gaaggaaatt	120
gaggaatacg	atgttgactt	tgaccatcag	ttccttgaaa	cggagaagta	tgatggcaaa	180
accgacctac	aaaaagttcc	toggctacag	gocctggcgta	tatgttatcg	gtga	234

&lt;210&gt; 1787

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1787

tatgacatgg	caaaaatata	aattaaatct	gagaaactca	caccttttgg	aggaattttt	60
tcaatcatgg	agaaatttga	ctccatgctt	tcacccgtta	tcgactcaac	actgggtcag	120
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acacaggaaa	acatctccta	tacttccgac	caaggcaaga	ccctatga		348

&lt;210&gt; 1788

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1788

gttcctgagc	aacaaaaagt	tgcccaggat	tttgccatgt	cagaattttc	acttatctta	60
gtgttgcaaa	aagaaaacaa	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
ctgagaaact	cacacctttt	ggaggaattt	tttcaatcat	ggagaaattt	gactccatgc	180
tttcacccgt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

&lt;210&gt; 1789

&lt;211&gt; 2178

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1789

tttttattga	accatatcat	gaagaacatg	aaaaaactga	cttttaagtt	agcttgcttt	60
tttctctctc	tttttagtgag	tagtgtggca	atggccgaaa	gtattacttc	tcccaacgga	120
ctcttgaaac	tgaatgtatc	tgtgaatgag	aagggggaac	ctgtgtatga	actttcttat	180
aaaggtaaag	aagtgattaa	accttctaaa	ctgggtcttg	aactgaaaga	cgatccgggg	240
ttgatggacg	gttttacggt	gtctgatgcc	aaaacttctt	cttttgacga	gacttgggag	300
cctgtttggg	gcgagggtta	gcaaattcgc	aataattata	atgaacttgc	gattacttta	360
gaccagaaag	ctcaggatcg	caaaatgggtg	attcgttttc	gtctgtataa	tgacggactc	420
ggatttcgct	acgaatttcc	acaacaaaag	aatctgaatt	atthttgtaat	taaagaggaa	480
cattctcaat	ttgctatggc	cggtgatcat	acggctttct	ggataccggg	agattatgat	540
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gcccgtagtg	gaggttttgc	tattagtttg	atagaggcta	cccctgccga	taagaaagca	2160
cttaaaaagt	ggaaataa					2178

&lt;210&gt; 1790

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1790

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gacacccata	agaaaaatctt	cgctcttctg	gaatcccaga	acaatccggt	aaaacgcttc	240
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aaactttttt	acatcccggc	caacccgagg	catttggtct	aa		342

&lt;210&gt; 1791

&lt;211&gt; 1887

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1791

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gtattgccgc	tactgtttcc	gttttag				1887

&lt;210&gt; 1792

&lt;211&gt; 1068

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1792

caaaaaggat	taaagaatat	agaaaccatg	aagaaagaaa	atgatgaaat	aaccgatctg	60
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ctggatggag	acgtggtgaa	acaggatttt	accctatgc	gctccgaacc	ggttttgggt	360
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gctgtgaaaag	ctgctgtggg	taccgctttg	cctgccgcta	acggtaagta	caagatgcc	660
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gaaccgggag	taacgcacca	tttcaagaca	aactccaaac	tggaacag	acggtcggcg	1020
aagcctacga	attttaacct	tgattgcggt	ctgcgtatga	cctattaa		1068

&lt;210&gt; 1793

&lt;211&gt; 1038

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1793

tgccgacaat	cccgcacatag	agctatgatg	aagagacata	atatactgac	ggtactggca	60
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&lt;210&gt; 1794

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1794

tcgcttatgt	caaccgatca	tatatccaca	catcccgact	cccctcttca	cggaaacggg	60
atcgggagtg	aggctatcaa	cctcgctgcc	atccggcagg	agtacaccaa	aggcgggctg	120
aagggaaggag	atctttccga	caaccgcgtt	tctcttttca	accgatggct	ccacgaagct	180
atcgatgcac	aggtagacga	acctactgcc	atgctggtag	gcaccgtatc	tcccgaaggg	240
caaccatcga	cccgtaccgt	actgctaaag	gatttgcatt	atggaaagtt	tatcttttat	300
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&lt;210&gt; 1795

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1795



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&lt;210&gt; 1796

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1796

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gtaaatgtag	ctgttgggaa	attttgttct	atcgaggag	atgttgaaat	aggttttagca	240
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&lt;210&gt; 1797

&lt;211&gt; 738

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1797

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<210> 1798  
 <211> 1092  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
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<210> 1800  
 <211> 183  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 1802

&lt;211&gt; 2886

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1802

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&lt;210&gt; 1803

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1803

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&lt;210&gt; 1804

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1804

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&lt;210&gt; 1805

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1805

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&lt;210&gt; 1806



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&lt;210&gt; 1810

&lt;211&gt; 1029

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1810

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&lt;210&gt; 1811

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1811

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&lt;210&gt; 1812

&lt;211&gt; 993

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1812

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&lt;210&gt; 1813

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1813

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&lt;210&gt; 1814

&lt;211&gt; 1161

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1814

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 1818

&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1818

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&lt;210&gt; 1819

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1819

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&lt;210&gt; 1820

&lt;211&gt; 1032

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1820

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&lt;210&gt; 1821

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1821

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&lt;210&gt; 1822

&lt;211&gt; 717



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&lt;210&gt; 1828

&lt;211&gt; 1446

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1828

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&lt;210&gt; 1829

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1829

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tttttgatgt gcgaattggg gtactttata agttcttacc gtttaagtcc atataaattt 60
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actgtcattg aggacaatca cggtaatagg aaaaccatta agaaagatat ctttggagat 360

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actgtcattg	aaaataataa	aggttataaa	aagaccatta	agacagatat	attcggtaat	660
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gttattattg	agaattacta	a				741

&lt;210&gt; 1830

&lt;211&gt; 711

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1830

aactttat	ttt	tgaggatt	tgataagatg	atagctataa	tacctgctcg	tgaggatcc	60
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gaaattgcac	gtatttcgtt	aaagtttggg	gcagaagttc	ctttcatgcg	accaagtcac		240
ttagcttcag	ataccgttct	tgctgtagaa	aattatcttt	atacaataga	tagaattgaa		300
aaagaagaaa	atgtaattat	tgatagat	attgttttac	aaccaacttc	tcctttgaga		360
agtgtggaag	atattgattg	tgctgtagaa	ttatttataa	aaaagaatgc	ggactctgtg		420
gtgagttaca	caaaagaaga	acatccaatt	tattggcata	aaaatataga	caatgataat		480
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tatcctaattg	gagccattta	tatcttttaa	agtagtttaa	ttagaaataa	gaaatattat		600
acagacaatt	cttttgctta	tgcatgcct	agagatagat	ccgtagatat	tgattttttg		660
gaagattttc	tttatgcaga	gtatttggtg	aaaaaatgta	gtatgaaatg	a		711

&lt;210&gt; 1831

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1831

gggattat	ttt	tattatgcat	gagtcatagc	tacaattcac	tttacaatta	cctctgctta	60
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aacgatttgt	tttctgagca	aaaagaatat	ccgaatgctt	atccgtgtgc	tataatgggt		180
gacggataa							189

&lt;210&gt; 1832

&lt;211&gt; 819

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1832

aaagccataa	ggctctccta	taataaatac	caggcggttg	ttgacgttta	ccaacttttt	60
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aaccacgtct	ccgggtgaa	gggctttggc	tatcagttcg	ccttccttct	ctttctgttg	180
ctcgggtgtc	aggcttttcg	tatttttcaa	ttctggaatc	acctccatat	cgaagaaat	240
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gtgattatga	aaaaacgggt	acttttatgg	atggccggac	tcgtattcgc	tgtaacttcg	480
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<210> 1833  
 <211> 519  
 <212> DNA  
 <213> B.fragilis

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 caggattgtc tgttgaaggc attggacaac aaagagaaat ttgtgcatac ccagaatttc 180  
 aagggatgga tgtacaccat catgcgcaat atctttatca ataattaccg taagtcattg 240  
 cgcgaagtag acatgaccga ctctacttat aatctctatg cgcaaaccat gacggaaggc 300  
 gaggagggga accggtttga gacgatctac gacctgaagg agctctacaa agtgatcaat 360  
 gccgttcccg aagacctgaa gaagcctttt atgatgttcg tggccgggtt caagtatcgt 420  
 gagatagccg agaagatgga tttaccggta gggactatca agagccgtct gttcctgatc 480  
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<210> 1834  
 <211> 1059  
 <212> DNA  
 <213> B.fragilis

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 gaagaaacctt cggataaggg cagtacttct ccccaagagc cggtttacac cacctttaca 180  
 gatgccggcg aagtgggttg tcccgagtg cttccggcca atttactcc ccggtccgta 240  
 cgggtcaagg gggacacttt gtttgttgcc aataccaatg ccgccgaccg ttccgtgcta 300  
 ttgctgaacc tgacgacagg cgaactgac ggacgtatcg attcatgggt acggaaaggt 360  
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 gtgggtatgt acaactcccg tattaatatt tttgaccgtc gcacccttca gtttgtcaat 480  
 gccatcgggc gttcagacgg aaagtgggga gacgatattt atagcatgac ccattgctac 540  
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<210> 1835  
 <211> 852  
 <212> DNA  
 <213> B.fragilis

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 acgcttccgc aggtacttga aaagaagaag gtggtgctga ccctccgtcc ctatacggcc 420  
 aataccaaat ataattggga tcctatttat caaaagaaga ttcgggtaga tgccgataca 480  
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<210> 1836

<211> 645

<212> DNA

<213> B.fragilis

<400> 1836

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<210> 1837

<211> 207

<212> DNA

<213> B.fragilis

<400> 1837

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<210> 1838

<211> 1332

<212> DNA

<213> B.fragilis

<400> 1838

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aatattgagt	tggaaaccgac	ttttgctaac	ttacaaaaat	tacgtcatag	agaaattttt	180
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tttggtttgg atggtaaatac ttgggtcatat gtttttgatg aaaatatgat taagtttgaa 1260
gatgttgata cgattgggtgt agcagctaata gatatgtgtg gacaagttag cctcaaatgt 1320
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<210> 1839

<211> 936

<212> DNA

<213> B.fragilis

<400> 1839

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tatgactatc tggcccggct gactgttgcc ttataa 936

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<210> 1840

<211> 735

<212> DNA

<213> B.fragilis

<400> 1840

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cctgacggaa gtacacctgc caaactattg caggacactt ggttctcgat ggggtgagata 540
ggagccggaa agacagttga atatacactg catgggacgg atatgggagt ctacgttttc 600
ctgatcgaag gagaagtaaa gatagatgat gtgatcctga ctgcgcgcga cggattggga 660
atatccgaaa tcaagaattt tgagatagaa actctgaaag actctaaaat actactgata 720
gaagtaccga tgtaa 735

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<210> 1841

<211> 597

<212> DNA

<213> B.fragilis

<400> 1841

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&lt;210&gt; 1842

&lt;211&gt; 1119

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1842

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accgcaggag	agaacagtgg	ttttcaggac	gagggcatata	cagccgtagg	agcacaaata	180
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gcgctggctt	taggtctgaa	tgtggtagaa	gggaaagtgg	tatatcgagc	gatagccgat	1080
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&lt;210&gt; 1843

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1843

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gaaagccctt	tggtctaaact	gtcggaaactt	tactcaagcg	agataaaaaga	cttggctgtt	120
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aatctatata	atacattcat	ttccgaactg	gaatatattc	atcaagagaa	aaataaggag	300
attatagatg	aacgtactct	tttcagactt	catcaatcta	tttccacagg	tttggtttct	360
aatgaggaat	caggctttttt	aaggacacgt	gcagttagga	tcagcggtag	tgattatgct	420
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ttgattcgat	tttatgaaac	gggggattac	actaagtatt	ctgactactt	tctaaatagg	720
cagttggaac	gcatttaaaga	aatagatata	taa			753

&lt;210&gt; 1844

&lt;211&gt; 1827

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1844

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aataagaata	ttactgagga	taagtga				1827

&lt;210&gt; 1845

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1845

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ctattttagt	ggcgtttgaa	gtatataagc	gagaaagatt	ctggatatcta	tgatgccatg	240
aataagggga	taaaattggc	tagtggggat	ataattggta	ttataaattc	agatgatttt	300
tataaaaagca	ataatgttat	agcaagtgtt	gctaattgctt	ttaatgacaa	tagtattgag	360
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gttttag						786

&lt;210&gt; 1846

&lt;211&gt; 1470

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1846

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ggtgtcattg	gcaaaccggt	acgtgcgctc	gccgacggat	atatttcccg	tattcgcgtc	240
accaatgggt	cgggacatgt	actcgatgtg	gtgtataaca	acggttatac	gacaatcaac	300
cggcacttga	gcggtttcat	gcccgatatt	gcccggagag	tggagaaact	gcaatatgaa	360
aaagaagatt	gggaagtcga	gattgttccc	gagccgggtg	aatatccggt	gaaggccggg	420
cagcaaatga	cctggagtgg	taataaccgt	tattcattcg	gtccgcatct	gcactctggat	480
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aaagataaca	ccgctccccg	ggcagaagga	atcatgctgt	ttccacagcc	gggaagtggg	600
gtagtgggag	ggagcccggg	acggcagagc	ttcccgataa	acacagcgcg	tcccatcgag	660
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gacacagtgc	ccccgaaat	taccccggtg	ggtaagaata	cctggggccg	taatgggaag	1440
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&lt;210&gt; 1847

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1847

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cttttaataca	aagaagcagg	cgtgttgggc	ggcatcgaaa	ttgccaaaga	aatattccac	180
cgttttcgacc	cgacgatgaa	agtcgaggta	tttattaacg	atgggtgctga	agtgaaccg	240
ggtgatgtgg	caatgattgt	ggaaggtaag	attcagctct	tgtccagac	agaacgtctg	300
atgctgaacg	tgatgcagcg	catgagcggg	attgctacta	tgacacgcaa	atcagtgaa	360
cagtttgaag	gcacgaaaac	acgtgtgctg	gatacccgca	agactactcc	cggactccgt	420
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gcatgctga						849

&lt;210&gt; 1848

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1848

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aatgtttgcc	tgattgcagc	caatcttctt	gaaaccaaag	ttattcaggt	aggcagtatc	120
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gaacagcatt	ttgattttgt	attcggcatg	gcccccgta	tcgtagtagc	cagtctgctg	360
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atccgtgtcg	tgaaagccgt	taagcgaatt	gacggaagcg	atgtctacga	tacggacatc	660
tcctacaatg	tactgaaggt	aaaggatata	tga			693

&lt;210&gt; 1849

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1849

aaaacaaact	tagaaacaat	ggaaataaaa	agtagatttg	accacttcaa	tatcaatgtg	60
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gaaatggact	gcgtatgctt	tgagaatact	tccatggggc	tctattttcat	caatgatccg	360
gatgactact	ggattgaaat	attaccggaa	cgactttaa			399

&lt;210&gt; 1850

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1850

ttctacgact	taaaatttga	tacaatgttt	ctgagtgttc	atatgattta	cctgctcgat	60
gtgctctcct	ataatgagac	attggatgga	aatgccactg	aatatcatct	ttatatttgc	120
catattttat	caataattca	atgtaacgat	catgtatatt	atgatatccc	atatcgcgtc	180
ttctag						186

&lt;210&gt; 1851

&lt;211&gt; 279

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1851

gcaacttgc	tcatcctctt	ccttgaggat	actcttaggc	aattgttggc	tagaagccgg	60
tatctactgt	tcaaggcacc	gggcaagtgg	acggacagcc	aaaaacggag	ggctggaatt	120
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atttttactg	attatataga	caaggatgtg	gcgtgtgcca	aaaacttaga	ggtgggtggt	240
aagaatagaa	ctttttataat	ggaagtgtgc	tgtatctaa			279

&lt;210&gt; 1852

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1852

aaagaaatag	ttatgagtca	attatatattt	togtctaaga	aaaggaataa	tggttctatt	60
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cagcttagtc	ccatttcggt	tagtgccgta	aaaggaaatc	agttattgat	tacattgaat	180
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gatgaaataa	aaagcagagg	tgtatattat	agtggcaagg	atgggcaacg	tgtccctatc	300
acattgcaaa	cggttgctga	tgtagaagag	gaccatagtt	atattataaa	aggattgtgg	360
tgtaacgaaa	gcgggactga	aaatcggaat	tgtaatatcg	gtgaattttc	ggaaaccgta	420
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&lt;210&gt; 1853

<211> 258  
 <212> DNA  
 <213> B.fragilis

<400> 1853  
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 ataagcttac attatgaaga gcagcatatt acagccgtat gggctctactt gacagtaaaa 180  
 tttgaagagc attggaagcc tgttgatgta gaggtcgagt ttagatgcaa gttcaaggag 240  
 cgaaaaggtag atgggtag 258

<210> 1854  
 <211> 1239  
 <212> DNA  
 <213> B.fragilis

<400> 1854  
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 cttcgtcagg aggttgaagg taagagttta ttggtgattg gtgggtgcggg ttccatcggg 180  
 tcttcctata taaaagccat tcttcctttt aagccttcca aacttggtgt gattgattta 240  
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 cctgttgttt attttaaaag tgataaccag ggtgagaaag gctacgaaga gttctatgtg 1020  
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 ccggactgtc ataagtctga tatcgtgact gcgcttaaaa gattccttcc caatttcgaa 1200  
 cacgtggaga aaggaaagaa tctggatcag aaaatgtaa 1239

<210> 1855  
 <211> 1506  
 <212> DNA  
 <213> B.fragilis

<400> 1855  
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 gcttctacac aaattgacgc ggtatattcc aatccggcgg gtgtggcttt catggaaaac 180  
 ggcttccact tgtcactcaa cggacagagt gcgttccaga caagaactat cacttctact 240  
 ttcgctccgt ttgcagggtt tggaggaagc gctaccaaag tatataaagg agaagcttcg 300  
 gctccgttca ttcccagtgat atttgacgta tataagaagg ataagtgggc attttcgggg 360  
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 attcgtaaca ttgaggctaa catcgggtgg ggagaaatgg taaacgtgaa taagtatttc 720  
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 gctaattatg caaaatatga tgccattgca aaagaagcaa ccaagggttc cggactgacg 840

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ttctga						1506

&lt;210&gt; 1856

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1856

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&lt;210&gt; 1857

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1857

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actcttgatg	cactgggact	tcgcaaattg	aaccgtgtgg	ttgaacacga	aagcactcct	180
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&lt;210&gt; 1858

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1858

agattgctga	ccgtccgggt	ggttatactc	gtatcatcaa	gactggaaac	cgtttgggtg	60
------------	------------	------------	------------	------------	------------	----

acaatgctga	aatgtgcttc	atcgaactcg	ttgactacaa	cgaaaacatg	gctaaagaga	120
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attcttatag	atataaaaaa	ggctgctctg	aaaagagtgg	ccttttttgt	tgattttact	300
aaagatacat	taaaaacatt	tgaagggtgaa	cagtcggact	ga		342

&lt;210&gt; 1859

&lt;211&gt; 1851

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1859

atatattatt	tttgcgggtc	aaacaatcaa	ggaaatatgg	aacaactaaa	tctcatcata	60
gacacttatc	aacggattat	tctcgaatcg	gaatcgaagc	tggaaggt	aaaacaacac	120
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aagatagaaa	tcaaccgaca	ggaattacaa	gcccttacat	acgatacgtc	agctttcgat	360
aatggggagg	agttttatcaa	tccatcacat	ctttatactt	atgatctgga	cgtatttgga	420
gaacattcac	tctttcagta	cataaaccgg	actgccacgc	aaccggtaa	aaaaagactg	480
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aatgcctgct	tcctgatgaa	aaaaatggga	atagccgtca	tcgacgacta	a	1851

&lt;210&gt; 1860

&lt;211&gt; 582

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1860

gaggataaag	caatgtcaag	aataggaaaa	ttacccatta	gtattcccgc	tggaagtaaca	60
gttactctga	aagatgatgt	ggttaccgta	aaaggaccca	aagggtgaact	tagccagtat	120
gtgaacccgg	ctatcaatgt	tgctattgaa	gatggacaca	tcactttaac	tgaaaacgaa	180
aatgcaatgc	tggaataatcc	caagcagaaa	catgcatttc	acggtttgta	tcgttcgtta	240
gtacacaaca	tggttggtgg	tggtttctgaa	ggatataaga	aagaattgga	gcttggtgg	300
ggtggttacc	gtgcttctaa	tcaaggaaat	atcattgaat	tagcattagg	atatacacac	360
aatatcttta	tacagttgcc	tcctgaagtc	aaagtagaga	caaaatcaga	aagaaataag	420
aatcctctta	ttctttttaga	gtcttggtgac	aaacaattgc	ttgggtcaagt	ttgctctaag	480
atacgttctt	tccgtaagcc	cgaaccgtat	aaaggtaaa	gtattaagtt	tggtggcgag	540



gaaattcgca gaaagtctgg taaatcagcc ggtgctaagt aa

582

<210> 1861

<211> 612

<212> DNA

<213> B.fragilis

<400> 1861

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tcaagaaaaa	gaaaaacttc	tgaatatggt	attcagcttc	gtgagaaaca	gaaagctaaa	180
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aaaggtatta	ccgttgaggt	acttctccag	atgcttgaag	gtcgtcttga	caacatcgtg	300
ttccgtttgg	ggattgctcc	tacgcgtgca	gcagctcgtc	agttggtagg	ccacaaacac	360
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aatcacagca	aatatgcttg	gttggaatgg	gatgaagctt	caaaggtggg	caaattgctg	540
catattcctg	aaagagcaga	cattcctgaa	aacattaaag	agcatttgat	tgttgaattg	600
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<210> 1862

<211> 489

<212> DNA

<213> B.fragilis

<400> 1862

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aaggcgaaag	ctctgaagaa	attcggtgag	cctttgatca	caaagtctaa	agaagacact	180
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gaaaacatgg	ctaaagagaa	agttgctaag	aaagcaactc	gtactcgtcg	ttcaaagaaa	420
actactgaag	ctgctcctgc	tgccgaagta	cctgcaactg	aagaaccgaa	agctgaatca	480
gcagaataa						489

<210> 1863

<211> 1008

<212> DNA

<213> B.fragilis

<400> 1863

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accgttggtg	atgcttttgc	ccgtatcctc	ccttcttcat	tagaagggtt	tgctatcacc	180
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gttaccaca	ttatcttgaa	tctgaaacaa	gtgagattca	agcaagtagt	tgaagaattc	300
gagagcgaaa	aggtgagcat	cactatcgag	aattctagt	aattttaaag	aggtgacata	360
ggtaagtatt	tgactggatt	tgaagtgtta	aatccggaat	tagttatttg	tcatttagat	420
tctaaagcaa	ctatgcagat	tgacattaca	attaacaaag	gtcgtggata	tgtccccgct	480
gacgaaaacc	gcgaatattg	taccgatgtt	aatgtaattc	caatcgattc	aatctatacg	540
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gagaaactgg	tacttgaaat	tactaccgac	ggttccattc	acccgaaaga	agcgctgaaa	660
gaagctgcta	aaattctgat	ttatcacitt	atgttattct	ctgacgaaaa	aattactctt	720
gaaagtaaat	acgtttgacg	taatgaagag	tttgatgaag	aagtattgca	tatgcgtcag	780
ctgttgaaaa	ctaaacttgt	cgatatggat	ctgtcagtac	gtgccctcaa	ttgcttgaag	840
gctgctgatg	ttgaaacatt	gggcgatttg	gtacagttca	acaaaactga	cctgctgaaa	900
ttcagaaact	tcggaaagaa	atcgcttacc	gagcttgatg	atgtgctgga	aagtctgaat	960
ctgtcgtttg	gaaccgatat	ttctaaatat	aaattagata	aagaataa		1008

<210> 1864  
 <211> 450  
 <212> DNA  
 <213> B.fragilis

<400> 1864  
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 gtagaagttc ctgcttcaaaa tttgaaaaaa gaaatcacta agattccttt tgaaaaaggc 180  
 tacatcctta attataagtt tgtagaagat ggtcctcaag gaactattaa agttgccttg 240  
 aagtatgatt ctgttaacaa agttaacgca atcaaaaaac ttgaaagaat atcttctccg 300  
 ggtatgcgtc agtacactgg ttacaaagat atgccgcgtg ttattaatgg tttgggtatt 360  
 gctataatat ctacttccaa aggtgtaatg acaaacaaag aagctgctga actgaaaatc 420  
 ggtggtgaag tattgtgtta tgtatattaa 450

<210> 1865  
 <211> 561  
 <212> DNA  
 <213> B.fragilis

<400> 1865  
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 aatcagggtt taggtatggc tgttgctgat aagaagatta tcgaagtggc aatcaacgaa 180  
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 attgaaacta agttcgatgg taagggtaac tatacccttg gtattcagga acaaatcatt 420  
 ttccctgaaa ttaatatcga tagtattacc agaattctcg gaatgaatat tacctttgta 480  
 acctctgcgc aaacagatga agaaggttat gccttattga aagaattcgg tttaccgttt 540  
 aaaaacgcta aaaaagactg a 561

<210> 1866  
 <211> 303  
 <212> DNA  
 <213> B.fragilis

<400> 1866  
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 tttgaagctg cacagaaatt acaggagctt cctaagaatt ctaatccgat tcgtatgcac 180  
 aatcgctgta aattgactgg tcgtcctaaa ggatacatcc gtcagttcgg tgtttcaaga 240  
 atccagttcc gtgagatggc atctaattggg ctgatcccag gtgttaagaa agcaagctgg 300  
 taa 303

<210> 1867  
 <211> 222  
 <212> DNA  
 <213> B.fragilis

<400> 1867  
 tatatggcaa agcaatctgc aatagaacaa gatggagtta tagttgaagc attgtctaatt 60  
 gcaatgtttc gtgttgaatt agaaaacgga catgagatta ctgctcatat ttctggtaag 120  
 atgagaatgc attacattaa gatcctaccg ggtgataaag tcagagtcga aatgtctcct 180  
 tacgacttat cgaaaggaag aattgtatct agatataaat aa 222

<210> 1868  
 <211> 477

<212> DNA  
<213> B.fragilis

<400> 1868

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ggctctacta	aaacaagaaa	aagaatcgga	cgtgggtcgg	gttctggctt	aggaggtact	120
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agaattgaat	ataaagctat	taacttagaa	acaatccaga	aattagctga	agctaagaag	300
ttggaaaaag	taggtgttaa	tgactttatt	gaagctggat	tcatttcttc	aagccagttg	360
gttaaagtat	taggtaacgg	aactttgact	gctaagctga	gtgtagaagc	tcattgcattc	420
tctaagagtg	cagttgctgc	tatcgaggct	gctgggtgaa	atgtagtaaa	actctga	477

<210> 1869

<211> 447

<212> DNA

<213> B.fragilis

<400> 1869

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aaacaggcgg	aacaagatat	ctatatggct	atgtcaacaa	tgaaagggga	tacgcacgaa	180
acagtcagca	gtcccagac	accctatttc	cctgatgccg	aattggccgg	gaccggaatt	240
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tctttaaaag	cccttgctca	aaggctggca	gaccgtgatg	ctgttttatc	tcagcattgg	360
gggaagcttt	atgaaaccac	tacttcttat	tggtggcatc	ctgtaagcga	atactatggt	420
ttcgcctctaa	ggcgtattat	tgtatag				447

<210> 1870

<211> 357

<212> DNA

<213> B.fragilis

<400> 1870

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atctatgtcc	agattatcga	cgatttgtct	ggtaagacat	tggctgctgc	ctcttctactg	180
ggtatgactg	agaagttgcc	taagaaagaa	gttgctgcta	aagtgggtga	gattattgctg	240
aaaaaagctc	aggaagcagg	tattacgact	gttgtttttcg	accgtaatgg	ttacttgtat	300
catgggagag	taaaagaagt	agctgatgct	gctcgtaacg	gtggacttaa	atttttaa	357

<210> 1871

<211> 384

<212> DNA

<213> B.fragilis

<400> 1871

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gtagacaaaag	atctgaaggt	gaaagactgg	acagatgatc	aggctgcaaa	gattcgtgag	180
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agaggtcaga	gcactaagaa	caatgcgcgt	actcgtaagg	gtagaaagaa	aaccgttgca	360
aataagaaaa	aagctactaa	ataa				384

<210> 1872

<211> 531

<212> DNA

<213> B.fragilis

&lt;400&gt; 1872

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aaagacagat	tagttgctat	taatcgtgtt	actaaagtaa	ccaaagggtg	tagaactttt	120
agtttctctg	caattgtagt	tgtaggtaac	gaagaaggta	ttatcgggtg	gggacttggt	180
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cgtgccgtat	tggaaagtgt	tggtgtaact	gacgttttgg	ctaaatcaaa	aggatcttca	420
aatccgcata	accttgtaaa	agccactatc	atggccttag	gcgagatgcg	tgatgcaaga	480
atgattgctc	agaacagagg	aattagtgtt	gaaaaagtat	ttagaggata	a	531

&lt;210&gt; 1873

&lt;211&gt; 804

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1873

gtagaaatga	tattttcttaa	aactgaagat	gaaatagagc	tgctccgtca	gagtaactta	60
cttggttggtg	gaacgttggc	tgaagttgcc	aaacttgta	aaccgggagt	taccactaaa	120
gagctggata	aggtagcggg	agagtttatc	agagatcatg	gtgctgttcc	tacctttaaa	180
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caggtagtgc	atggcattcc	gggagatata	gtgttgaaag	acggtgatat	tgtatcggtc	300
gactgtggta	cctacatgaa	tggtttctgt	ggtgattcag	cttatacctt	ttgcgttggt	360
gaagtggacg	aagaagtctg	tcagttgttg	aaggtaacta	aagaggcggt	gtatatgggc	420
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tgtgagtcct	attcttatgg	tgttggtcgt	gaatttgctg	gtcatgggtat	tggtaaagac	540
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aaaggctctt	gcattgcgat	tgaaccgatg	attacgcaag	gtgaccgaca	agttattatg	660
gaacgtgacg	gatggacagt	gagaaccaga	gatcggaaat	gtgccgcaca	ctttgaacat	720
accattgcgg	taggtgcagg	cgaggctgat	attctgtcat	catttaaatt	catagaagaa	780
gttttaggag	ataaagcgat	ataa				804

&lt;210&gt; 1874

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1874

gagtttaact	tattagttct	attattatct	tatgttgccg	tgcttggtag	ttataggtgt	60
ggtagtatct	atcagctatt	atttactaat	aattttaaact	tcaatattat	gacaacccaa	120
gctatcgatg	caacaatttt	tgcatcttca	caccagata	ttgcaaaacg	caccagtgtt	180
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ttgttcttga	ttggcgtttt	ccggttggtc	tggaaatcca	aggagattgt	ttacttgccg	360
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gaagcagctt	ctattgccgc	tttcttgact	aagacaaaag	gacactga		648

&lt;210&gt; 1875

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1875

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gatgctaattg	gacaattgca	tggttcattca	tctttcaaca	atattattgt	ttctcttgca	120

aatagtgaag	ggcagattat	ctcttggtcg	tctgcaggaa	agatgggatt	tagaggttct	180
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gatcttggcc	tgagaaaggt	aaaagcatat	gttaaaggtc	cgggtaacgg	tcgtgaatct	300
gctatcagaa	cgattcatgg	tgccggtatt	gaagttacag	aaatcattga	cgtaactccg	360
cttccgcata	acggttgctg	tcctccgaaa	agacgtagag	tttaa		405

&lt;210&gt; 1876

&lt;211&gt; 1359

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (199)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 1876

aactctgatt	caatgagaaa	agctattgag	tcatcaaaga	atatatggaa	aattgaggat	60
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&lt;210&gt; 1877

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1877

atccaaaaat	cacatcccaa	ggacaagaat	accatcaata	gtgcagatac	tgacagcatg	60
ccccggcttc	ctatatataa	agcccgttcc	atggtaggta	attttatcga	tatggctgaa	120
aagataacca	ttgctatcgc	attgattccg	aaacagaggc	tgaaggatag	aggagagagt	180
ccgtag						186

&lt;210&gt; 1878

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1878

gccagtatac	ctcctccgat	aggggcgatg	actgtagcta	ttccatttat	tccgcogata	60
------------	------------	------------	------------	------------	------------	----

acggcaagca	tgccggccag	ttgctgtccc	gaatactcgt	cggtagctat	ggagcgggaa	120
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&lt;210&gt; 1879

&lt;211&gt; 2280

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1879

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&lt;210&gt; 1880

&lt;211&gt; 2409

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1880

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gtttttacatt	tatatctct	acctttgcac	actaaatcaa	tcaattactt	aaaaaactct	180
aacccaagcc	gcatgaaagt	actttttcat	tcactattta	ttcttttatt	tgttttcact	240
gcctgtacgt	ctacccttaa	acaggcaact	attgactata	ccaatatgt	aaacccattt	300
atcggaaccg	atttcaccgg	taataoctat	cccggagcac	aagtcccttt	cggcatggta	360
caacttagtc	cggacaacgg	acttcccggc	tgggaccgta	tctccggata	tttttatccc	420
gatagcacta	ttgccggatt	cagccatacc	cacctttctg	gtacgggggc	aggcgactta	480
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gatcaataa						2409

&lt;210&gt; 1881

&lt;211&gt; 3663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (231)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 1881

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ttaa						3663



<211> 1137  
 <212> DNA  
 <213> B.fragilis

<400> 1882  
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 gaaaactttt acggtgccgc cggatccacg gacatggccg gaccgcaatc ttatttagcc 180  
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 acgtgtatca atagctcaaa agctccacga atcataacag aaatgtcaa gctcagctac 960  
 ggtatgtatc taatgcatat cttctgggta ggattatggg caacagtatt taagtatacc 1020  
 ctggcactgc ctactgttgc cgctatacca tgcattgcag tcagtacatt tatctgttgc 1080  
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<210> 1883  
 <211> 195  
 <212> DNA  
 <213> B.fragilis

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 agatacatat cgtag 195

<210> 1884  
 <211> 705  
 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 1886

&lt;211&gt; 1044

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1886

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<211> 201
<212> DNA
<213> B.fragilis
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<210> 1890
<211> 552
<212> DNA
<213> B.fragilis
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<211> 1170

<212> DNA

<213> B.fragilis

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<210> 1892

<211> 1128

<212> DNA

<213> B.fragilis

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<210> 1893

<211> 885

<212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1893

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&lt;210&gt; 1894

&lt;211&gt; 600

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1894

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&lt;210&gt; 1895

&lt;211&gt; 1437

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1895

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&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1896

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&lt;211&gt; 2301

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1897

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tacaattatg	ccggacagcc	ctggaaagcg	caatactggc	ttcgtcaagt	aatggaccgc	1920
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caagaatcaa	cccgaacta	tctgaaacat	gccgatctgc	tgcaaggcgg	aaccattgaa	2220
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tcattctcca	agatgaaata	g				2301

&lt;210&gt; 1898

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (210)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 1898

aggcaaaaaa	gaatagattt	cctattttttg	caaccgaata	taactataga	aataaagacc	60
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tcgaacttgt	ccgactgcga	tgatacgcan	gtgatgataa	aagctctgac	cgaaggcaat	240
gaagtgtatt	atattcttgc	ggccggaaacg	gccatgcgct	ttctgacggc	ttatctgagc	300
agtactccgg	gtatccatac	catcacccga	acggaacgga	tgacagcaacg	accatacag	360
atattagtaa	acgccttgcg	cgaactggga	gcccatatag	aatatgttcg	gaatgagggt	420
tttccaccct	tacggattga	gggtagagag	ctcacgggca	gcgaaatcac	cctaaagggc	480
aatgtgagtt	cacaatacat	atcagccctg	ttgatgatcg	gtccgggtact	gaaaaacggg	540
ttgcaactcc	ggttgaccgg	agaaatcggt	tcacgacctt	acatcaacct	gactttgcaa	600
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ccacaacctt	accactgcct	tccgtttacc	gtcgaagcgc	actggagtgc	agcttcttac	720
tggtatcaga	tagctgccct	gtctcccca	gcagatatag	aactgaccgg	actgttccgc	780
cacagttatc	agggcgacag	ccgcggagca	gaagtatttg	ccgcctggg	agtggcaacc	840
gaatatacgg	aaacagggtat	acgactgaag	aagaatggca	catgtgtcga	acggctggat	900
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aatgtgcctt	tccgcttcac	cgggctgcaa	agcctcaaaa	taaaagagac	agaccggatc	1020
gaagccctta	aaacagagat	gaaaaagctc	gggtatatat	tgcatgacaa	aaacgacagt	1080
atcctttctt	gggacgggtga	acgcgtggaa	caacagacat	gtcccgttat	caagacttac	1140
gaggatcatc	gcatggctat	ggcttttgc	ccggcagcaa	ttcattatcc	gacaatacaa	1200
atagacgaac	ctcaagtagt	ctccaaatca	taccocggat	attgggacga	tttgcgcaaa	1260
gccggtttcg	gcatcaaggt	cggagaggaa	taa			1293

&lt;210&gt; 1899

&lt;211&gt; 2631

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1899

atatatagaa	gtatgttgac	tgcaaaagaa	accagagatt	cgtttaagaa	tttcttcgag	60
tcaaaaggac	atcagatcgt	tccctcggct	ccaatgggtga	ttaaagatga	ccccaccctg	120
atgtttacca	atgcagggat	gaaccagttt	aaagatatta	ttttgggtaa	ccaccggcgg	180
aaataccaca	gagtcgcgga	ctcacaaaag	tgcccttcgtg	taagcgggcaa	gcacaatgac	240
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cgcgacttgg	tgaaccacga	tcatccccag	gttatcgaaa	tctggaatct	tgtattcatg	660
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caacagcaga	aacaacgtgc	ccgcaatgca	gctgccatag	agacagggtga	ctggatcata	1380
ctgaaagaag	gaactactga	gtttgtaggt	tacgattaca	cggaatacga	aacttccatc	1440
ctgcgttatc	gccagggtgaa	acagaaaaac	cagactctgt	atcagatcgt	actggactac	1500
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ttcgagacta	tcgaagtaat	cgacaccaag	aaagaaaata	atcttccgat	acatattacg	1620
aagaacctgc	ccgaacatcc	ggaagctccg	atgatggcat	gtgtagacac	agacaaacgt	1680
gccgcttgtg	cagccaatca	ctcggctacc	cacttgctgg	acgaagcgct	ccgtgaagtt	1740
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aacgcaggac	tgaaaaaaca	ggtggaagac	ttcatgaaag	aaaaagaagc	tgccgtcaaa	2280
gaacgcctgc	tgaagaatgt	acaagagatt	aacggcatta	aagtcattaa	gttctgcttg	2340
ccgatgcccg	ccgaagtagt	gaagaacatc	gctttccaac	ttcgtgggtga	aattacagaa	2400
aatctcttct	ttgtagccgg	aacagtagat	gccaataaac	caatgctgac	tgttatgatc	2460
agtgacaacc	tggttgccgg	cggactgaaa	gcaggtaatc	tggtgaaaga	agctgccaaa	2520
ctgattcagg	gtggcggtgg	cggccaacct	cacttcgcaa	cagccggtgg	caagaatccg	2580
gacggactga	acgctgctgt	tgagaaggta	ctggaactgg	caggaatcta	a	2631

&lt;210&gt; 1900

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1900

gaaaaagcta	tctttgtgac	attaaattta	gataaaatga	aagcattatt	acctgtattc	60
tgccgtcctt	taggatattg	gattcttgtt	atttctatgt	ttattccatt	cctgttattg	120
atgcagggaa	tggtaacgga	cagtaactta	ttattttata	aagagtgtat	taaactgctg	180
atgatattgg	gagcaatgat	gattattttt	gctttatcac	gtaatgaagg	tcgtgaaaca	240
gagattatac	ggaacaaagc	tactcgtaat	gctatttttc	tgactgtgct	ttttttgttt	300
ggcgggatgc	tttatcggtg	agcaacagga	gatatacatga	ccgtagatac	ctcttctttt	360
cttatttttt	ttattatcaa	tgtactctgc	cttgaatttg	gtatgcaaaa	agcgcgaaatc	420
gataaaatct	ttaaaaagata	a				441

&lt;210&gt; 1901

&lt;211&gt; 1971

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1901

cgacacgata	tgaattttgt	taaccgattc	tttatgattc	ttgtggcact	atgcctggtt	60
tgccccggcg	ttagtgacgt	tgtaaatccc	aaaccttttg	tgattcccga	actgaaagag	120
tggaaagggtg	ccgaaggggc	atttgtaccg	actgaaacaa	caaaaatagt	ctgtcctgcc	180
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ggtcacaac	cggaggtagt	acaaggtaaa	ggcggagccg	gtgatgttat	tcttgccatt	300
cgtgcagata	agaagttggg	caaagaaggc	tatacgggtga	aagttaccga	tcgtatcttg	360



ctgactgctc	ccgaaagcat	aggggtatat	tggggaaccc	gtactctgct	tcagattgcg	420
gaacagagtg	aaaatcatca	gttcccga	ggtactttac	gtgactttcc	ggactacgct	480
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tatctggaag	gggacgaacc	tgtattccgt	ggaaagaaag	tgcataatcg	tactgacgaa	960
tactcaaata	agaaaaaaga	tgtagtagag	aagttccgtg	ctttcaccca	ccattatatac	1020
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catcaccccg	tttatccggc	tttgcagact	ttggctgtga	agatgtggac	cggaaaagat	1440
gtatccgttc	cgtatgctga	ctttgataaa	caacgcaatg	ccatcagtga	ggctccgggt	1500
gttaatcaac	tcggccgtat	cgggtactaca	ccgggattgg	tgtatgaaca	ggcttccggt	1560
gctcccaata	gcgagactcc	tcaccgtgaa	atcggttacg	attatctggg	aacatttgat	1620
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tatctttccg	atccgatccg	tggcatgttg	ggttttgccc	gtgacgggta	tttgaataca	1740
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tcgaccgctc	tacttatcaa	tggacaggta	gtagaggaaa	tgaatactca	aaaactttac	1860
tataatgccg	ggaaagattc	tatgaattat	gttcgcactt	tagtcttccc	gctagagaaa	1920
gccggaaagt	ttgatagtaa	gattacaaat	ctgaagggtt	ataagaaata	a	1971

&lt;210&gt; 1902

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1902

agatatagta	tgaaaatcaa	aatatacaaa	tcgcttgcca	tgtgcactct	cctgttagga	60
ctggctgcat	gtaatgattt	cgaagaaatg	aataccgatc	cctacgcacc	ggtatacgat	120
ccggaaataa	tcggtgccac	acctgacgga	atcgatatcg	actacgaact	gacaccagat	180
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tccattggaa	tactacgtaa	aaatgtgcaa	tgccacagaa	cgagaaagtg	a	591

&lt;210&gt; 1903

&lt;211&gt; 1500

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1903

gcgaacttaa	tttattctga	tatacaaaac	tgtaaaatag	acgaacacat	gaatctaaga	60
aatttctttt	tagcggcggg	aatcgctgct	gtagcggtag	ctgtatgggg	gcaaaaggcc	120
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ggagacgttg	tgcgcgagtt	tgtggatgct	tgcgaggagt	atggcattaa	ggcgggcatc	480

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aagattgtgc	gagagaagca	accggactgt	gtcatttttcg	ggaccaagaa	ctcgtatcct	720
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gatggccgta	actggacccc	gataccggaa	gcaaccgata	agcagacggt	ggggtataaa	1380
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&lt;210&gt; 1904

&lt;211&gt; 1209

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1904

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ggtgtattaa	gtgctttcgg	ccctttttata	atggacatgt	atttgectac	cttaccggct	120
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cctccattac	ttctggccat	gattctgttc	ctgctcgcta	cggtggggtg	catcttttca	300
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tatcattga						1209

&lt;210&gt; 1905

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1905

gttctatcga	tactcctaac	aacggcgcag	gtaactggga	ataatccgaa	tatgcccgat	60
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cttagtacgg	atggattttc	tttttctatc	tacaatccga	ttcacgatag	ttcgctctct	180
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cgtgaatttg	actttctgaa	tcatacttac	aaacgggtaa	acattctgat	ggcagacaag	300
cgttttaccc	taatccccct	tgaactgttt	gaggatgatc	agtcggaaat	gatattctac	360
cataaccaca	ctcccaaaga	aaatgaaacg	gtaaaatata	atatttttaa	aaagaataat	420

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tatgagcgtg ggcattctgt tcttgccaat tcatttgaat gtcgcaaaac aggtgaccga 660
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cacctgacag gtgcatttaa tgataaagag aaactaatgc aggagttacg taaatacata 780
cagcaggtat tcataatgaa ccttgcaagc aatattgaca tgcaagcctt attaacatgc 840
gagtaa 846

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<210> 1906

<211> 1158

<212> DNA

<213> B.fragilis

<400> 1906

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aatacatgga tcagaaagat gtatacgacg ttatctttta aaatgcttcg atcaggccca 60
tcaactgcact ggcacaacac tccttctact gcgcaatata gcctgggtga aaacgacaag 120
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<210> 1907

<211> 912

<212> DNA

<213> B.fragilis

<400> 1907

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1909

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&lt;211&gt; 240

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1910

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&lt;210&gt; 1911

&lt;211&gt; 1512

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1911

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&lt;210&gt; 1912

&lt;211&gt; 1029

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1912

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&lt;210&gt; 1913

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1913

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&lt;210&gt; 1914

&lt;211&gt; 1155

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1914

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&lt;210&gt; 1915

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1915

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&lt;210&gt; 1916

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1916

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&lt;210&gt; 1917

&lt;211&gt; 969

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1917

aggatggctt	tagattttatt	taaacgtgta	gaaagccgta	agggcttgtt	tgctgttgag	60
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cagatgagcc	ttttatccta	ctggtatccg	gatactttcg	agttcaaccg	cgtcttcccc	300
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gctttcgtgt	tgtatgtatt	ggtgacgaag	atgttcaaga	agtggttcgc	agtgccgatg	960
ttcaagtga						969

&lt;210&gt; 1918

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1918

aatccattta	cgtgggagaa	gtatccgact	gatccgaaga	atgagaaggg	gattcggatg	60
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ttttcacctc	tggctgcacg	tgtacgaagg	gcacgtggag	agtctccaaa	ggaagctttg	180
cagaaatgtg	caaaatgtga	taaagagtcg	aatccgtaa			219

&lt;210&gt; 1919

&lt;211&gt; 1026

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1919

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gccatggtag	caatgccgga	tgccctggacc	agaatgatga	ttggtgtaaa	ccagaaggat	180
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acggagtaca	agaagtacac	tccttatgag	ggagacttgg	tttggaagaa	tagtgcacgc	960
tataacttca	taggccccac	caaggcaaaa	gtatcttttg	tgtggcttat	aacagcaagg	1020
agatga						1026

&lt;210&gt; 1920

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1920

agattaaacc	aatgaagtc	gaacaagaat	gaattttctaa	aactactgac	ggcctaccag	60
------------	-----------	------------	-------------	------------	------------	----



ggaattatcc	acaaagtaaa	cgggatatat	ttcaggtcgg	aagccgacag	ggaggacaat	120
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caggaacagg	acgaaaactg	gcaaagactt	gtcaatgccc	tgcaaaagct	gaatgaaata	360
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&lt;210&gt; 1921

&lt;211&gt; 2502

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1921

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cagacgatag	ttgtatcggg	cataggagt	aaaactaaaa	aggtgccgat	acatgtgact	300
gccggaaaag	tgaaccggat	tccggacata	gagatcgata	cccaggcggga	agagctggaa	360
gaagtacagg	tgattggaaa	atctgaagct	cgccggcagc	aggagcaggc	gtatgccata	420
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&lt;210&gt; 1922

<211> 1029  
 <212> DNA  
 <213> B.fragilis

<400> 1922

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aatacggcag	tgagtaagac	aacaagagct	acgactttag	tgaactcagc	ttttacaaag	180
tttacggcat	atgcctattc	tactactgag	gcatttgcta	atgctacaaa	agttaatgcg	240
ctgatatctg	gcgctgagtt	tactaaagga	gaaaactccg	catggggcag	tggttaactct	300
gtattctatt	ggccggcaac	agatcaagta	agtttctttg	ctttttcacc	taacactaag	360
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aatgccaaga	aaaaagggtg	gtatacttat	gctacttcta	ctactgatga	gacaacatta	660
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cctaagtag						1029

<210> 1923  
 <211> 1134  
 <212> DNA  
 <213> B.fragilis

<400> 1923

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acttacgggtg	aaagatcgga	tgccggcctg	gtggactact	atcagccgga	agcagggatg	300
agtactgttt	ttatcaatcc	gtatagcgga	caggtattga	agtcggtagt	gaatcataac	360
ggtgatttgc	atttcttccg	gttggtgctt	agcgggcac	gcactttatg	gctcccacag	420
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actcagctac	ggcttgaaga	acctgctgcc	aagacctttt	attttgcttt	acccggacaa	840
gccgatgggtg	tttaccgggt	cagtgttgta	cataaaaagag	ggtcttacta	ccgtaccgat	900
aatttgtttt	ttgaccggta	tacactgggt	tctttgaaag	gagccggtcc	ttatgccggt	960
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gggcgcattct	gggggcttcc	tggtaaaatt	ataatgttcc	ttgcgagcct	gacgggtgct	1080
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<210> 1924  
 <211> 291  
 <212> DNA  
 <213> B.fragilis

<400> 1924

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aaaaagaagc	aacctaacgc	aaagcagaaa	caggaaaaac	aagaacaaaa	tggaaggaag	180

aaagagtata	tgaaggtatt	ttatctttcc	ggaagccttc	ttcattcaag	agcaacggga	240
ggagcatata	gccttatcct	acttcagaac	cgggataaag	aaagaacatg	a	291

&lt;210&gt; 1925

&lt;211&gt; 429

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1925

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cgcgactatg	agtgcgacct	gcaaggcatt	gtgaataatg	cgaattacca	acattatctg	120
gagcataccc	gtcacgagtt	tctttcatcg	gtaggcgtaa	gctttgcaaa	actgcatgaa	180
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caggatatct	ttcggaaaag	cgatgataaa	gtagtcgtta	agtcgaccgt	agagaccgta	360
tgtgtcgtta	atggacgctt	gagcaacagt	gagttattcg	atcagatctt	cgcaccctat	420
ctgcaatga						429

&lt;210&gt; 1926

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1926

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ccgaaagcaa	aagggtgcttt	tgaacatat	caaataaag	atatcccggg	cgatacgtcg	120
ttcctcgaaa	tgctggatat	cctgaacgaa	cagattatta	atgacgggtg	cgaacctatc	180
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gtagaagcag	cacgccgtgc	aaaagctatg	ctttctaaga	tggacgaact	gggattcggg	660
aactgtacaa	acacacgtgc	ttgtgaagca	gagtgctcga	agaacatttc	aatcagcaac	720
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&lt;210&gt; 1927

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1927

actagtagaa	aaatgaagaa	atttgtgctt	atttgttttt	gtgtgctttc	ttcggtaggg	60
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ataggggccc	gttgtgcggt	agccaatatt	tatgtgaatc	gctggcctaa	caagtgggtg	600
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&lt;210&gt; 1928

&lt;211&gt; 1029

&lt;212&gt; DNA

<400> 1928

<210> 1929

<212> DNA

<213> B.fragilis

<400> 1929

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tacgtaattc	ccatgaactt	cggttatcag	gacgggggtg	tctatctgca	ttccgggtccc	180
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aagaacgtaa	aaatctggga	gattccgatt	gacagcgtta	cggcaaagga	gtacgcagtg	480
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<210> 1930

<211> 993

<212> DNA

<213> B.fragilis

<400> 1930

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atccccaatt	tccgtgagac	acgcattgcc	atgctacgca	ccgaatcggc	agaagaactc	960
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&lt;210&gt; 1931

&lt;211&gt; 1959

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1931

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tgctggaaat	acaccgggtg	aaattcagaa	ccggagttga	tcaaagaaga	tttgaactac	1920
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&lt;210&gt; 1932

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1932

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gaattactgg	actaacaga	cgtaaattat	gtagtgtact	ggttcaacga	accaccctcg	300
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&lt;210&gt; 1933

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1933

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atcttttggga	atggggccttc	gtccatttat	acttttttgc	ggggcggaca	gttggagtct	360
cccggtgtag	tggcattggg	ggcggcactg	gtgtcgatcg	tttcaaagga	gatactttat	420
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cgtatggatg	ggaagataac	tctggaagag	gcacatagta	cggcaactgc	cattgaaaac	840
aagctgaaag	agatgttttg	gaaaggaacc	catgtaggca	ttcatgtgga	accgacgaaa	900
taa						903

&lt;210&gt; 1934

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1934

ccctacttga	gcagggctat	caaatgcac	atattattata	atattatgga	tagtcccata	60
tttgaaaaca	ggattcaagt	tttatacttg	aatcctgaag	ttttctatit	acacaaaatg	120
atggacagta	tccaatacta	cttaggagtc	tcaagtgaat	cccagctatc	agcaactgaa	180
ccggtaatatg	acatcttctc	aacgcctttt	aacgtcaata	cgtaa		225

&lt;210&gt; 1935

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1935

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tattttcaacc	cggcagggag	cgtgaaagac	cgtatctctc	tggctatggg	tgaagatgcc	180
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gagctggcaa	aactgccgga	aaatgaagga	aagctgatcg	ttgtattgct	gccggatacg	900
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<210> 1936  
 <211> 1278  
 <212> DNA  
 <213> B.fragilis

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aacatgcgtg	cacgttcggc	caatacattt	accatcgaag	atttacgcga	gatagcccg	180
acctgtgatg	aacatggaat	gaagagttat	ctgacagtga	ataccatcat	ttacgataag	240
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cgtgtagagc	tgaaccgggt	ggagactgtg	aaaaagggag	aacacttctc	aatgaaactg	1200
gataagatac	gtccgagtga	taagttatat	aaattgggtt	cgaccgaaga	actgaaaaaa	1260
tttaaaggggc	ttgaataa					1278

<210> 1937  
 <211> 966  
 <212> DNA  
 <213> B.fragilis

<400> 1937						
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tggagcggag	tgacggagaa	gttgccggaa	ggagttcggg	ttattttcta	tccgaaagac	180
gaaaaaggta	gaaagataga	tacgtatttg	tcggtaacag	gtggggaagt	aaaagttcct	240
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gaagttgaaa	tagaagatga	aataaaagta	gatgatgtgg	aaactcctcc	aagtggaggt	900
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ggataa						966

<210> 1938  
 <211> 2157

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1938

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aaatatattt	tctcggaact	gaagttaacc	actcatccgc	taaaaatgct	ttgcatggat		180
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cttaacaatc	acggcataga	gatgaccgga	accttcagc	gcaaaaagcaa	tggaaagaac		300
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gaagggaag	tgattgaaat	attgcagcgt	gccaacgata	cctttgtcgg	cacactggaa		480
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gcccggccgg	aagatttccg	gaaagtaacc	actttcacca	tcgacccgaa	agatgccaaa		840
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&lt;210&gt; 1939

&lt;211&gt; 1230

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1939

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&lt;210&gt; 1940

&lt;211&gt; 861

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1940

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gtaaaagaca	tttcgtatat	tccctgcgggg	gaaacggacg	gttaccgtaa	agagcgttgc	180
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&lt;210&gt; 1941

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1941

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cttgctatct	ttagtgaaaa	tgggtcttttc	tttatctcct	cctgcatatc	tgtgcccatg	120
agcccagata	gcaaggctca	cataaacata	tcagaaggta	cggtataact	cttatttaca	180
aagtattata	aatga					195

&lt;210&gt; 1942

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1942

aaagtaaacy	taatggaaac	aaatgacatt	aaagaaacct	ggaaagcggg	aatagaaaga	60
accatcaaac	cgtatccgga	agagagattg	aatgaaatgg	ttgtcaactc	tgccagaaaa	120
tcaatcaaga	cagtgtatcc	cggaaactgt	ttccggctcg	ttatcattgc	cgtggccggt	180
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cgggaagtata	cccatgggaat	gcccgtaaag	gaatgggttg	aataccgtat	caaagagatt	360
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gaagatcagg aaggagatg a

621

&lt;210&gt; 1943

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1943

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&lt;210&gt; 1944

&lt;211&gt; 705

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1944

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cgctggaaat	gcatctccaa	catctattca	accatcggtg	ttgtatgctt	tgctctggta	660
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&lt;210&gt; 1945

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1945

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&lt;210&gt; 1946

&lt;211&gt; 876

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<210> 1948
<211> 2196
<212> DNA
<213> B.fragilis
```

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aattatattgc	tgttttcggt	gttggtggcc	ggggcagtat	cggtgttacg	tattccgggt	180
tacccggtag	aggtggtgaa	accggtaaaa	atggaacaaa	tagtggtggc	gcaggaagcg	240
caaacggata	aagtttcttt	gatgcaata	gataataatg	ggatacaacc	ggatacgctt	300
gcaacagcaa	tgtgacgga	tgtgaatgaa	gctgtcacgc	atcacacgga	agaagaaata	360
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&lt;210&gt; 1949

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1949

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acaggttcga	ccagcacccg	attttccgta	aaagagaata	aagccaatac	acctatacat	180
aaaggaagca	acgctatctt	gcgtaccctt	gccaaacgtt	ctttatattg	a	231

&lt;210&gt; 1950

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1950

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&lt;210&gt; 1951

&lt;211&gt; 2031

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1951

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&lt;210&gt; 1952

&lt;211&gt; 2286

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1952

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&lt;210&gt; 1953

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1953

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taa						183

&lt;210&gt; 1954

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1954

ttgtattctg	ggaaattaaa	taattccatt	ctttacgcaa	atttcattct	ttgtatgatt	60
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caggaatag						189

&lt;210&gt; 1955

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1955

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gctaaacaag	ttatcttctt	gtcagctgat	gccttcgggtg	tattgcctcc	ggatcttatc	180
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gatactcgtg	gtatcatcga	cgctatcctt	gacggttcta	tcgacaaagc	tcctactaag	480
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cttgatcctc	gtgatactta	cgctgatcct	gcacagtggg	atgaaaaagc	aaaagacctt	600
gccggtcgct	tcataagaa	cttcgctaag	ttcactggaa	acgaagctgg	taagaagttg	660
gttgctgctg	gtccgaaact	ctaa				684

&lt;210&gt; 1956

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1956

ggtttgtgtt	cgttcttttt	ggtaatatat	gtcagtttcc	atacttttcc	ggtaaagata	60
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aataagtatt	tatatctcat	ttttttctat	ttttttattc	cgtttctgat	tagtaatgcy	180
tcaatcgtag	gttcttgtcc	tctgaaacgt	ttgtaa			216

<210> 1957  
 <211> 1128  
 <212> DNA  
 <213> B.fragilis

<400> 1957  
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 cggagcgcca ttccaccgatt acggaacaat agatctggct gtgattccgg gtgttgcttt 180  
 cgatcgggtac ggacatcggt taggccgcgg caaaggatat tacgaccgtt tattacctca 240  
 aattccggct cccaaagtcg gcatttggtt cccgtttcaa ttgatagaag aagtaccgcg 300  
 agaagcattc gacttccgta tggatactat tatagcacia tgaaaacaaa ttatcacaca 360  
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 tttcccgaaat acatccactg gctgaaagaa atcatcaaaag agtaccggtt ggattatatc 660  
 ctctttggaa accaccatta ccatactgac gaaaagtttc cctacttcgg gcatcatacc 720  
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<210> 1958  
 <211> 498  
 <212> DNA  
 <213> B.fragilis

<400> 1958  
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 ctggacggag ctgtgaaaac tttgaagaaa catggagcca aagaagaaaa tatcctggta 180  
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 gttattttacg gattaattac caccaacact atggagcagg cagaagacag agccggcggc 420  
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 tggagtttaa ataaatag 498

<210> 1959  
 <211> 1188  
 <212> DNA  
 <213> B.fragilis

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 caggtagaac tgaatttttc ggctaaactg aattgctttt tcgggcagaa cgggatggga 180  
 aaaaccaatc tgctcgatgc ggtctacttt ctgtcttttt gtaaaagtgc aggaaatccg 240  
 atcgattcgc agaataattc tcatgaacag gacttttttt ttattcaagg gttctatgag 300  
 gcgatggacg gaacaccgga agagatttat tgcggaatga agcgtaggtc gaaaaacaa 360  
 ttcaaacgta ataagaaaga atattcgcg cgtcggatc acatcggatt tattcctttg 420  
 gtgatgggtg cgctgcca ctcggaattg atagcggggg gcagtgcga acgtcgccgc 480  
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 aataaggcat tggtaacaac aaatacattg ttgaagagtg aacaaccgat agaagaagag 600



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&lt;210&gt; 1960

&lt;211&gt; 1101

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1960

aaacattttc	ttacttttgc	accgcattct	aatgaaacaa	atgcgaattt	agaaaagtat	60
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&lt;210&gt; 1961

&lt;211&gt; 1554

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1961

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&lt;210&gt; 1962

&lt;211&gt; 711

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1962

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aacgaagaag	cagtaaaagc	cttcaccaag	attaaggata	aataacttcca	gtcttatcag	660
gcaatggata	tcgataaata	catcgagcaa	gctaaactat	tgaaaaaata	a	711

&lt;210&gt; 1963

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1963

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ttacgtagtt	tgccttattg	gggctatgtg	cggttgggtca	tgttcagacc	atattgccga	180
ttcgtctga						189

&lt;210&gt; 1964

&lt;211&gt; 2151

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1964

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&lt;210&gt; 1965

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1965

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tacgcctaa						249

&lt;210&gt; 1966

&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1966

aatggaggaa	aaagagagat	gaaacgaaac	gatgcggaac	cgattggaaa	actgattcag	60
aaatatctgc	gtcaggagag	cttggagtct	ccactgaatg	agcaacgctt	acttgattcg	120
tgggagacgg	tgctgggacc	tactattatg	tcgtacacaa	gggatttgta	tattcgtaat	180
cagggtgtgt	atgtacactt	gacctctgct	gccctccgct	aggagtgtat	gatggggcgg	240
gaacttttgg	tccgtaattt	gaatcagaag	gttggggcta	cggtgattac	caatattatt	300
ttccgctaa						309

&lt;210&gt; 1967

&lt;211&gt; 1284

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1967

ctacacatga	aaactccttc	gcaaacacat	gtgctcggac	tggcacatcc	cccacttccg	60
atgggtacgcc	ttgctttcat	agggcttggc	aatagagggtg	tattgactct	gcaacgttat	120
ctgcaaatcg	aagggtgtcg	aatcaaagca	ctttgtgaaa	tcagggaagg	caatctgggtt	180

aaagcccaaa	agatacttcg	ggaagccggt	tatccgcaac	cggacggcta	taccggaccg	240
gatggatgga	aacgaatgtg	cgaacgggat	gacattgacc	tcgtgttcac	ctgtaccgac	300
tggctgaccc	acactcccat	ggcagtatac	tccatggagc	atggcaagca	tgtagccatt	360
gaagttcctg	cagccatgac	tgtagaagag	tggtggaagt	tggtagatac	ggctgaaaag	420
acaagacagc	actgcatgat	gctcgaaaat	tggtgctatg	accogtttgc	actgactacg	480
cttaacatgg	cacaacaagg	tgtattcggc	gaaataaacc	atgtagaggg	agcatacata	540
catgacctgc	gttctatcta	cttcgccgac	gaaagtaaag	gaggatttca	caatcactgg	600
ggaaagaaat	atagtataga	acataccggt	aatccttata	cgaccacagg	tcttggtccg	660
gtttgccaga	tactgaatat	ccatcgggga	gaccgcatga	actacttggt	ctctctgtcc	720
agtcttcagg	caggatgac	cgaatatgcc	cgtaaaaact	tcggagcaga	ctctccggaa	780
gcccgccaga	aatacttatt	gggtgacatg	aatactacct	tgatacaaac	agtgaagggc	840
aaaagtatca	tgattcagta	taacgtagta	actccacgtc	cttacagccg	cctgcataca	900
gtttgtggaa	caaaaggatt	cgcgcagaaa	tatcccgttc	ccagcattgc	tctcgaaccc	960
gacgccggct	ctcctcttga	ggggaaagca	ctcgaggaaa	taatggagcg	ttacaaacat	1020
cctttcacag	ccactttcgg	tacagaggct	catcgcgaaa	atctgcccaa	tgaaatgaac	1080
tatgtaatgg	actgccggct	aattttattgt	ttgcgcaacg	gattaccatt	ggatatggat	1140
gtatatgatg	ctgccgaatg	gtcgtgcatc	acagaactga	gcgaacaatc	ggtattaaac	1200
ggcagtatac	cggtagagat	tccggacttt	acgagaggag	catggaagaa	atgccatata	1260
agcagaacat	cagatctcta	ctaa				1284

&lt;210&gt; 1968

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1968

aaaaaaatga	aatataaata	cttattatta	ttacttttga	tgtccctttt	tgtaagcgga	60
tgcaacgatt	cggatgatgt	gaacgggtatc	tttaccggaa	aagtatggaa	actgacgtat	120
attaccaaaa	agaacgaaca	caaaccctat	gattttctggg	gtgataaaga	caaatatgaa	180
caatccatca	agaattacat	caataaagaa	gggtgcataca	caatcaaatt	cgaaggggag	240
actacagaca	atgtcatcag	cggaaagtgtt	agcgggaacgc	ttttgtcaca	ttcttatacc	300
ggaacctgga	gtgccaatgg	cgaaggaat	gctttctcag	cttccgtaaa	aggggtctgaa	360
aatgatccgt	taggatttag	taacaaatgtt	gtcgaaggac	tcaacagggc	tacttcgtac	420
aaaggggaatt	acgacaacct	ctttatctat	tacaaggatg	agggaggaag	agagttatgc	480
ctgggtatttc	atgttgataa	ggacaacaat	aaataa			516

&lt;210&gt; 1969

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1969

cagcgtatgg	acacagcaaa	cagcaaacaa	tcagatttgg	acaagcggtta	tatccgcatg	60
gcttccatct	ggcgggaaaa	ctcttattgc	caacgccgta	aagtaggagc	actgattgtc	120
aaagacaaaa	tgattatctc	agacggatat	aacggaacac	catccggctt	tgaaaacggt	180
tgtgaagatg	ataacaacgt	caccaagccc	tatgttctgc	atgctgaagc	caatgccatc	240
accaagatag	cacgttccaa	caacagtagt	gacgggtgcta	cgatgtatgt	cactgcttca	300
ccttgcatcg	aatgtgccaa	actgatcata	caggcaggca	tcaagcgagt	ggtgtactct	360
gaacactatc	gcctggaaga	cggaaatagag	ttactgcaac	gtgcaggtat	cgaggtcgtt	420
tttgtcgata	cgagtgaaaa	atga				444

&lt;210&gt; 1970

&lt;211&gt; 2028

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1970

actatgagac	taaaattaaa	acatatatac	ttctgctcat	tgatagcaat	gggcggattg	60
gcgataaact	cgtgcgagga	ttttctcgac	cggctcaccta	tcagccaggt	aactcctgag	120

aagtactttca	gtacagtaga	ccaggtagca	aactaccta	ataactacta	caacgactat	180
ctggacgact	ccagaaatta	taagctatat	caccaacagg	cttggaactc	aggcatgcaa	240
cgcaacgatg	ccaacacaga	caacctgttg	gcagacgaca	gtagcctgga	ttattttgcc	300
ggtaactggc	aggttaggaag	cgggaaatcg	attcaagctc	cattaaaccg	gatccgtaca	360
tgggaattacc	tgcttgagca	agtacttccc	aaagaaaaag	aaggatcgat	tcaaggatcg	420
gttgaggacc	tgaaacacta	catcggcgaa	gcttacttct	tccgtgccat	ggcctactat	480
aaagcattgg	tgaatatatg	cgactatcct	atcgtagata	aagttctccc	cgatcaggaa	540
gagatttttac	tggagtacag	tacacgtgct	cgcgcgaatg	aagtagcccg	ccagattctg	600
aaagattttg	atgaagctat	caaccgtatg	cacgaccagg	gtttccaaaa	caaccagcgt	660
atcaacaagc	aggtggctca	actctataaa	tcaagagtag	ccctgttcga	agctactttc	720
gagaaatatc	atcggggaac	cggacgtgta	cggggagatg	aaagttggcc	gggtgctaaa	780
atgtcttaca	acagcggcaa	aacgttcaac	attgacggtg	agatagactt	cttcctgacc	840
gaagccatga	atgcagcagc	agccgtagcc	gaccactgca	cgctgaccga	aaactcacac	900
gtgctaaatc	cggagtatgg	acaaatctat	aattggaacc	cgtattacga	aatgttcagc	960
acaccggatg	cttcgggtta	tagcggaggtg	ttgtttgtgga	aacagtatga	caaatcatta	1020
aatgtttcac	attgtgcgcc	tgcacgtctg	cagaacggtg	accgtaccgg	attgactcgc	1080
ggattcatta	ctactttctt	gatgaaaagc	ggtttgcccta	tttatgctgc	aggcaacgaa	1140
tatcacggtg	atgtatctat	ctcggatgaa	aaagaaaatc	gcgacgaacg	tctgcaactg	1200
tttgatatggg	gtgaaaaaga	tgtattgcac	agtgatacca	aaaaccacgc	tgtagcagca	1260
gccggcacaa	cactgctttt	cggagttccg	aatatcatct	ccgaacagaa	acagactcaa	1320
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gacgaactgc	tggggaccaa	tgccttgtgtt	gtcttcctgt	ctgcagaagc	taacctcaat	1440
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aaagcactcc	gcacacgcgc	cgggtgttgac	gacgattatg	ccaagactat	tgcagcaacc	1560
gacttgagca	aagaaaaatga	cttagccggt	tactcgggca	gcaaaatggt	ggatgttacc	1620
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gacctgaaga	gatggcggtt	ctgggatcaa	ttactgacca	aaccctatat	cattgaagggt	1740
atcaacttct	gggatgccgc	ttataaagat	cacaaggaca	ttaaggacga	tggtaccctt	1800
gatgcaaacg	tttcgcccaa	aagcgacagc	aaatacttac	gccacttcgc	cagaacctca	1860
atcaataatg	aattgtatga	cggctctgact	tggcgtaaag	cattttatct	ggatccgatc	1920
ggcatagaag	atatgtcttt	gaccgctacc	aatccggaag	atatcaacac	aactcagttg	1980
tatcagaatc	cttactggcc	gatgactgcc	ggtaaagcat	tggaatag		2028

&lt;210&gt; 1971

&lt;211&gt; 555

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1971

aacctcaaaa	ggaggaaaaag	aaagatggaa	agaaaaaaac	aactgcgcaa	gtggatagca	60
caggagaaga	agaaatactc	cgactctacg	cttaaatcgt	tgtcggaaaa	ggtattgata	120
actcttgagg	catgccccga	atttcaaaaa	gggcatacta	tattgctcta	tcaactcaatg	180
aaggatgaag	tgcagacgca	cgccttcatt	gagaagtgga	gccggtcgaa	aagaatcata	240
ttgcctgtag	taacaggcga	cgagttagaa	cttcgcgttt	acacaggccc	ccaagatctc	300
gccatagggt	cgtatggcat	tgcogaacca	accggagcgc	cattcaccga	ttacggaaca	360
atagatctgg	ctgtgattcc	gggtgttgct	ttcgatcggt	acggacatcg	tttaggccgc	420
ggcaaaggat	attacgaccg	tttattacct	caaattccgg	ctcccaaagt	cggcatttgt	480
ttcccgtttc	aattgataga	agaagtaccc	gcagaagcat	tcgacttcgc	tatggatact	540
attatagcac	aatga					555

&lt;210&gt; 1972

&lt;211&gt; 1485

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1972

aaagatatga	gtacaaaagaa	ctcttcacgg	tttacccttg	tcattcatcgc	tatcagtgtg	60
gtaatcgga	ttctgatagg	tacattttat	gccaaacact	ttgccggcaa	ccgactcggc	120
attatcaacg	gctcttcgaa	caagttgaat	gctttgctgc	gcattgtcga	tgaccagtat	180

gtggacaccg	tcaacatggc	cgaccttgtg	gaaaaggcaa	tgccacagat	tctggcagag	240
ctggatcccc	actctactta	cattcccgga	caaaacctgg	agaagtgc	atcggaactg	300
gaaggcagct	tcagcgggat	cggatccag	tttaccatcc	aggacgacac	tatccatgtg	360
aacagtgtca	ttcagggagg	accttccgaa	aaggtaggat	taatggccgg	tgaccgtatc	420
gtgatggtag	acgacagttt	gtttgtaggg	aaaaaagtga	ccaacgaacg	tgccatgcgc	480
actctgaaaag	ggccgaaggg	tactcaagtg	aaactgggcg	tgaagcgcg	tacggagaaa	540
gatcttttga	acttcaactat	cacacgcggt	gacattccgc	aaaacaccat	cgacgcagct	600
tatatgttga	cagatgactt	tggctatata	cagggttagta	aattcggacg	tactacacat	660
gtggagtgtc	tgaatgccat	tgttttactg	aatcataaga	actgcaaagg	gctgatcatc	720
gacttaoctg	gcaacacagg	aggatatatg	gaagctgcag	tgcgcagtgt	caacgaattc	780
ttgcccgaag	gtaaactgat	agtctatacg	gaaggacgca	aatatccccg	tgccgacgaa	840
tttgccaatg	gaacaggcag	ttgccagaaa	atgcccggtt	tcgtgctgat	tgacgaaggt	900
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gtgggtcgcc	gttcgttcgg	taaaggcctg	gtacaacagc	ctatcgactt	cagtgcgga	1020
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ccttatcaga	atggtaaaga	ccgcaactac	gaaatggatt	ggctgacacg	atatgaacat	1140
ggagagtact	tctcaaaaaga	tagtatcaag	ctcgatgaaa	acctgcgtta	ttctaccgcc	1200
ctcggacgtc	cgggtgtacgg	aggaggaggt	atcatgccgg	atgtattcgt	cccacaagac	1260
accacgggag	tgacttcata	tctgaccgag	gtgctgagca	aaggacttac	catccaattc	1320
accttccatt	acacggataa	taaccgcgat	aagttgaaga	agtacgaaga	cgaagaatca	1380
ctottaaact	atatgcgtcg	tcagggactg	gtcgaacagt	tcatacgcta	cgctgacagc	1440
aaaggggtga	aacgaagaat	catcctgatt	cagaaatcat	attaa		1485

&lt;210&gt; 1973

&lt;211&gt; 1830

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1973

aatatttttg	gattaatgtc	gttttttaag	tttatattta	ctcattgttt	aataactaaaa	60
tcttttatta	tgagagcttt	aattttacgt	gtttgcctta	ttggggctat	gtgcggttg	120
tcatgttcag	accatattgc	cgattcgtct	gattttatctg	tacagacacg	tacaattgta	180
tctccggaag	gagttttctac	ttcaaatecg	gatctgatta	gtgattggga	acatcaatct	240
ttgcttacc	tttctactgg	tgaacggatt	aatactccat	ggacgcccgg	tgcatctcac	300
tctatgtcag	aagaaactgt	atcggatata	aaaaaagaag	atggatggac	tatgcttttt	360
catactttta	aggcattaaa	tgagtctccc	aacagcaatt	atctctgctt	ctataatgaa	420
ttgacaggag	ttattaaggt	gtttttattat	ataaaaaatg	ctcagggaaa	taacggattt	480
cagtggagaa	tcagcactgc	caatggggta	gggagttagt	tattggcttt	gaacagttat	540
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atggatgagt	tgaagaaaaa	agcgaatgga	caaccctcta	atatagcagg	tgatgtgaag	900
ttgggtgaaga	agatcgttga	tgcattaact	tctggaaact	atttttcagc	aatagcgaaa	960
gggctgaagt	ttattttttg	atctactact	acccgacctg	aagtatctaa	agtgagtttg	1020
actacgacag	gggttgtaac	gatgggggga	acttcgcaat	ctggttcgca	tgataatgtg	1080
gaaccactat	tttcaattaa	tttgtatgat	ttgatgaatg	gtaatttagc	tgcattaaaa	1140
aagtctcctt	cttttaattc	tcttgtattg	cctgtagatg	ttactacacg	gtcgggagga	1200
gaacgctatg	caggagtgtg	gactttgaaa	gagtctcctg	tcattccgaat	gacctgttat	1260
ggacgtgtat	tgaattataa	tatatctggt	ggagtattta	ctgttgcttc	tgtattgtta	1320
ccttacttag	attcgaatgt	aaataaaaag	gcttctgtta	ttttgaatcc	ttatttgagt	1380
caatacgtta	cttctatgca	aactatggta	gatgtggtgt	cttgccgcaa	gttaaattggc	1440
gagaaatatt	tcaatggtta	tgccatttca	gattttatgt	cggaagaccc	catatatgaa	1500
gataaagatt	tggcaattcg	taagtctgct	ttttctggat	cgggaggtga	gatttgtaat	1560
caatcgatat	ctatttcaga	ttataatata	ggggatggag	gaaatcaaaa	tatgtatttt	1620
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tataactata	agggcaaagt	acacaatgtc	tctatatccc	ggaattataa	ggtccaatat	1740
gtgcatgac	ctgctacaga	tgtaaaaata	cttgggtactg	ccggaactaa	aaaagtggta	1800

atttgtgaata actatcccca atttgaataa

1830

&lt;210&gt; 1974

&lt;211&gt; 447

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1974

aaaaagatgg	gaaaaagtac	ttttttacaa	gacttttaaag	ctttcgccat	gaaaggaaac	60
gtggtagata	tggtgtgcgg	tgtgattatt	ggtggtgcct	ttggcaaaat	cgtttcgtcg	120
gttgtagccg	atatcattat	gccacctttg	gggttactca	ttgggggagt	gaactttacg	180
gacttgaaat	gggtaatgaa	agctgcggaa	tatggggctg	atggaaaaga	gacggccgct	240
gctgtgacat	tgaattacgg	caactttctg	caggcgactt	tcgattttct	tatcattgct	300
ttttctatat	tcttatttat	taaactgatt	acaaagttga	ctcagaagaa	agctgaggca	360
cctgctgcgc	cgcccgccac	tcctgcacct	acaaaagaag	agatattggt	gactgaaata	420
cgtgatttat	tgaagaaaa	gcagtaa				447

&lt;210&gt; 1975

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1975

aagcaaggcg	taccatcgga	agtgggggat	gtgccagtcc	gagcacatgt	gtttgcgaag	60
gagttttcat	gtgtagttag	gatgttaggg	ttgtatataa	aaaaagagaa	tctaatttct	120
cagatttctc	ttagagcgga	agacggggct	caaaccgcgc	accctcagct	tggaaggcta	180
atgctctatc	aactgagcta	cttccgcaat	ttttgtgggc	aaagatggat	tcgaaccacc	240
gaagtcgaaa	gacagcagat	ttacagtctg	ccccatttgg	ccactctggg	atttgccttt	300
ttgtttgctt	ttgagtcctt	ttgctttctc	ttaagtaggt	ttgtttctca	attgcgatgc	360
aaagatacaa	ctatttattt	aaactccaaa	caaaatcgat	cattttttatt	gcagtaa	417

&lt;210&gt; 1976

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1976

agtcatttat	tccgatttac	gatagaaaat	ttagttgttg	aaatagcaaa	tatctctttc	60
attaccgtat	atgtattatg	gggggagaaa	ctggaacttt	cctttgatat	ctcgttagaa	120
accaagatat	tgtggccttt	ccttcttcct	tcgggaaatg	cttgttttaa	ttctatgtta	180
aagcaagtgt	tctgtattta	a				201

&lt;210&gt; 1977

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (58)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 1977

cacttccgag	caggacagat	actcaggata	tttcctaaaa	aagtaacggg	taaagttnat	60
cctacccttc	gtccatgcag	ctctgatacc	atcctcagag	ccatcaagga	actgacacag	120
gaaaacatct	cctatacttc	cgaccaaggc	aagacctatg	atttcaatac	tgacagacaa	180
ctcaacacat	tgggtataaa	cgctttgggt	tttaccggcc	aattgaagga	aatttgggaa	240
atacgatgtt	ga					252

<210> 1978  
 <211> 2091  
 <212> DNA  
 <213> B.fragilis

<400> 1978

aaagcattac	ttttgctcta	cttaaaaagt	aatcaaaagc	cgatgattaa	aaagatatta	60
gcagcattat	tgttggttcc	tacatttgca	tatgctcaga	taaacacaga	cagggatgatg	120
atgattgccc	gaaacgcgtt	atactttgag	gactatgtcc	tttccattca	gtatttttaat	180
caggtgatta	atgcgaaacc	ctattttgat	gaaccttatt	ttttcagggg	acttgccaaa	240
atcaatctgg	atgattacca	gggggctgaa	gccgactgcg	atgcggctat	cgacagaaat	300
cctttttag	tgggggctta	tcagattcgt	gggttgga	gaattaagca	gaataaatac	360
gatggtgcaa	ttgaggatta	taaaaaagcg	ctccactttg	atccggagaa	tattactctt	420
tggcacaatc	tgaccttatg	ccatatacaa	aaagaggatt	acaaagctgc	tgaagatgat	480
ttaggcaaat	tgcttgcatg	cgctccgaag	tatacaaggg	cttattttgat	gcgtggagaa	540
gtcgctttga	aacagcagga	tacgttgctg	gccctgaatg	actttaatac	ggccattgag	600
atggataaat	atgatcctga	tgcttgggct	tcccgggcca	tcgtcagggt	gcagcaaggg	660
aagtatgccg	aggctgaatc	ggattttaat	cacgcgacac	atgtgaatgc	taaaaatgcc	720
ggaaactata	ttaaccgtgc	tttggcacgc	ttccaccaga	acaatctgcg	cgggtgctatg	780
agtgactatg	acctggctct	cgatattgat	ccgaacaact	ttatcggaca	ctataaccgg	840
ggcttgctcc	gggcgcagg	aggggacgac	aaccgtgcta	tcgaggactt	tgattttgta	900
cttcagattg	aaccggacaa	tatgatggct	acatttaaat	gcggattgct	tcgtgctcag	960
acagggtgact	accggggcgc	cattaaggat	tatacaaaag	tgattgatgt	atatccaaac	1020
ttcctggcag	ggtattatca	gcgtgccgag	gcacggagaa	agattgggtga	ccgcaaagg	1080
gctgaaatgg	atgaatttaa	agttatgaaa	gcgcaactcg	ataaacagaa	tggcgtaagc	1140
aatgctgata	aatcgggtggc	agacaataaa	aacggtaata	acaaagacga	gaataaaact	1200
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<210> 1979  
 <211> 1950  
 <212> DNA  
 <213> B.fragilis

<400> 1979

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<210> 1980  
 <211> 1266  
 <212> DNA  
 <213> B.fragilis

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agcagtgaca	tagatcggtt	tatgttccat	tacaaaagcc	atacctgtta	taaagaatat	780
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<210> 1981  
 <211> 348  
 <212> DNA  
 <213> B.fragilis

<400> 1981	ttaaatttgg	tagacaataa	aaaacaaact	ggaagtaa	gttattttaa	gaagaatgac	60
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aaagaactgg	atctcgtgga	gatttctccc	aatgcccac	cacctgtttg	tcgtattatt	240
gactactcta	agtttctgta	tcagttaaag	aagcgtcaaa	aagaacaaaa	ggctaagcag	300
gtaaaagtaa	atgtaaaaga	gatacgtttt	ggtcgcgcaa	cagatgac		348

&lt;210&gt; 1982

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1982

tattcaaaat	caaaatgcgt	aagggtttatg	aaaattgcag	aaattaaaga	aatgtctact	60
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cattctattt	ctccttttga	aaatcctgcy	cagatcaaac	aattacgcag	gacgattgcy	180
cgtatgagaa	cagagttacg	ccaaagagaa	cttaacaata	aatga		225

&lt;210&gt; 1983

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1983

gaaactatgt	tacaaccgaa	aaagacaaaa	ttcagaagac	aacaaaagg	ccgcgcgtaaa	60
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cgtttggcag	ctcagaaact	tccgattact	acgaagtttg	tcgtgagacg	tgattatgat	420
attcaaaatc	aaaatgcgta	a				441

&lt;210&gt; 1984

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1984

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atctgtagag	gtgaagtttt	tggttaagaga	gaattagctc	ccaactttac	acaaagcaaa	660
gagagtggtc	gtggaaacaa	tggtggaaac	aacggcggcg	gaaagaactt	caaaagaaa	720
aaaaataatc	gctaa					735

&lt;210&gt; 1985

&lt;211&gt; 633

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1985

aaaataatgg	aagttaacgt	atataacatt	aaaggtgaag	acactggaag	aaaggttacg	60
------------	------------	------------	------------	------------	------------	----

ttaaacgaat	ctatcttcgg	aattgagccc	aatgaccacg	ctatctatct	ggacgtaaag	120
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&lt;210&gt; 1986

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1986

actatgagtc	gttcattaaa	aaaagggtcca	tatatattaacg	taaaactcga	aaagaaagtg	60
cttgctatga	atgaatcagg	caagaaagtt	gtcgttaaga	cttgggtccag	agcttcaatg	120
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gtatatgtta	ccgaaaatat	ggtaggtcac	aagttgggtg	aattcgctcc	aactcgtaca	240
ttcagaggac	acgctggtaa	caagaaaaaa	taa			273

&lt;210&gt; 1987

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1987

caatatttaa	taaaaatggc	agtacgtaaa	tttaagccca	caacaccggg	gcaaagacat	60
aagattattg	gtactttcga	ggaaattact	gcatacgtac	cagaaaagtc	gcttgtatat	120
ggtaaaaaat	catctggcgg	tcgtaacaac	gaaggtaaga	tgacaatgcg	ctacttaggt	180
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cgtcgtcctc	gcaaccgtgg	tggtgttatg	aaccgcggtg	atcaccgat	gggtgggtgg	720
gaaggacgtg	cttcgggagg	tcacccaaga	tctcgtaagg	gattgtacgc	taagggactt	780
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&lt;210&gt; 1988

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1988

ataatgggaa	ttattattaa	accgtttggtg	acagagaaaa	tgactgcaat	aactgataag	60
ctgaatcggt	tcggctttat	tgtacgtcct	gaagctaata	aactggaaat	taagagtga	120
gttgaagccc	tttataatgt	tacggtagtt	gatgtgaata	ctgtgaagta	tgctggcaaa	180
aataagagcc	gttatacaaa	agcaggtatc	atcaatggtc	gtacgaacgc	ttttaagaaa	240
gccatcgtga	cattgaaaga	aggagatact	attgattttt	atagcaatat	ttaa	294

&lt;210&gt; 1989

&lt;211&gt; 195

&lt;212&gt; DNA

<213> B.fragilis

<400> 1989

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atatatggac	cttttttttaa	tgaacgactc	atagtttact	caattaatca	gattactttt	180
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<210> 1990

<211> 270

<212> DNA

<213> B.fragilis

<400> 1990

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ggtaagttcg	ttagcaaaac	gaagaagtac	catgctcacg	atgaaaagaa	tgaatgcaat	180
gtaggtgata	ctgtacgcac	catggaaact	cgtcctttga	gcaagactaa	aagatggaga	240
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<210> 1991

<211> 432

<212> DNA

<213> B.fragilis

<400> 1991

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atgcgtctcg	tggctgacac	gattcgtggg	atggaagtga	acagagcact	tggcgttttg	180
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tttgttgatg	gtggtgctac	actcaaaaga	atgagaccgg	ctccgcaggg	aagaggatac	360
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<210> 1992

<211> 734

<212> DNA

<213> B.fragilis

<400> 1992

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<210> 1993

<211> 1203

<212> DNA

<213> B.fragilis

## &lt;400&gt; 1993

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taa						1203

## &lt;210&gt; 1994

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

## &lt;400&gt; 1994

aacaattcgt	tcaatcactc	agaaatcagt	atcctaaaaac	cgagatactt	tccctatggt	60
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atttgttttg	ccatgaatca	ttattatctg	ttaaagttat	atcccgtcat	ccaattgttt	180
aatga						186

## &lt;210&gt; 1995

&lt;211&gt; 1152

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

## &lt;400&gt; 1995

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<212> DNA  
<213> B.fragilis

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cctgggcac cctataaaac attgtctttt ttatgcttat tcaactatgg ttttcattta 180  
aatgttggac gaggtgttaa gcgggtagat agttccattt tcgctattgt cttgttgcaa 240  
atatgttatt atatatattgat ctctttctat cattctgatt ttaaaaaatat taatctttgt 300  
atacaactta tttcgtttgtg cattattata tcctatatta agatctatgt cggatttgat 360  
gtttttgtga agtcatttat ctggataatg ttaattatgg gtgtcgggtg aaccttgacc 420  
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gtaattcgtt atgctggttt ctttgacgaa ccaggtaact tctctttgtt ctcaattttt 600  
gccttaatat tgaataaggt atattttaat gataaaaaata aggaactctt acttataattg 660  
gtaactatat tcactttctc aatagcattt tatgtaacaa tattttttta ttttttattc 720  
ttttatgtga ctaaaaaaga tatgaaatat gtaccattaa taatatccgt agtttttatt 780  
tgttatcttt ctttgacagaa tagtaatggg ggctctcttg gtacaatata caaactgaca 840  
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gaaaatgata gacgaatatt ttttaataat ttcttgcttg gagtaggact tgggagtga 960  
gaagtggagg gttctaattg ttttgctgtc ttgcgacgat atgggtgttat tgggtcgttt 1020  
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cgaaaattat tttttaaaat atatatgttg atacttttga ctttttttta tagaccagaa 1140  
ctttcttctg ttatggtact tttagtcttt tatatgctta ttgattatat aaaaagtaag 1200  
aaatatttaa attgtaagaa ctga 1224

<210> 1997  
<211> 282  
<212> DNA  
<213> B.fragilis

<400> 1997  
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gacgagaatg tttacctccg tggatttggg agcttcgctg taaagaaaag agctcaaaaa 180  
accgctcgta atattttctaa gaatacgact atcatcatc cggaacacaa cattccggcg 240  
ttcaaaccag ctaagacatt caccctttcg gtaaagaaat aa 282

<210> 1998  
<211> 930  
<212> DNA  
<213> B.fragilis

<400> 1998  
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attattatag ttgataactg tagtacagat ttaacttgga gtattttgaa tacatgggca 180  
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tggaatgaat gctttaagca tgcttcaggg gagtatataa agattccttg gtctgatgat 300  
tggatggcat tagattttat tgaaagagca gtgaatctaa ttgatgagaa gtcagcgttt 360  
gttatatcaa atcataagat cgtatcagaa aatgggtattg tagataatgt aaagtataag 420  
aaacaaaaat atacaagaaa agagtatctg tataatatat tatttcaaaa tattgagaaa 480  
ttcccattat ctctggatg tgctcttttt agaacgaaag atttgaatga taactttgtt 540  
atagatattc ctaatactga tggactggat tcaaaaaaaa atgggtgcagg taatgatcta 600

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gagtgggcta	aagtctattt	tattcaaaaa	aaactgaata	aaacttatta	ttctaataa	780
aaaaaaaaaa	tgttttggca	acaaataaat	aaaggttaata	agatttatca	taattttatat	840
gtgtgtctga	aatataatta	ttggatgcca	ctctcatattt	gcacattat	cttgggtgga	900
gttttaatt	ctttgagaaa	tagaaagtaa				930

&lt;210&gt; 1999

&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 1999

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aatatattat	tttattttata	cgaagaaaaa	gtctttattc	ttaacgaaat	tattgagcta	120
atgaataatt	tggtgtccat	ttttataacct	acttataata	ggtgtaattg	tttagatact	180
gttttagatc	gtgtcattag	ttctgtaaaa	gaatatgatg	tttgtgtaca	agtgtatgat	240
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agtagtatgc	ggtttttgtc	aaatattaat	aagtttaaat	tttgtgttaat	tagtagattg	960
caataa						966

&lt;210&gt; 2000

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2000

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acactgcggg	gtggaggaat	tatcttctac	ttgggtgcat	tggcttattt	tctgacaaat	180
cagtttgagt	acctttgggt	tatgttggct	ctcactctgg	tgacgggtgat	cagctttgta	240
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&lt;210&gt; 2001

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

## &lt;400&gt; 2001

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aaaagattct	cttggacaga	atttgaacct	tctgcttttc	ctcttcaaac	tctgcctaag	180
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cagtcctatt	ttgatatcaa	taccggtctg	actcaaaaga	tatttgactt	ctttttggag	300
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taa						963

## &lt;210&gt; 2002

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

## &lt;400&gt; 2002

aaagtaatat	attattttat	ggataagagt	ggggctgac	ctttgttttc	gattattaca	60
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gatgcaatga	ataaaggatt	ggctattttg	aaagggtgaat	ggattaattt	tatgaatagc	300
ggggatctat	tttataatga	tcatgtattg	gttgatatct	atagatattg	tgatttttaa	360
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gttggtttcct	tgtgggagtc	tttgggggtt	tctggaaata	atthtgaaatt	atttaaaaaat	660
gaagagaaaat	tgttggttaa	tagaaatttc	aatactgttg	aaatctattt	tattcgtata	720
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## &lt;210&gt; 2003

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

## &lt;400&gt; 2003

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## &lt;210&gt; 2004



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 <213> B.fragilis

<400> 2004

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<210> 2005  
 <211> 1362  
 <212> DNA  
 <213> B.fragilis

<400> 2005

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ctcctgctcg	cctcgggctt	tgcttcggca	tccgaaatcg	ctttcttctc	actttcgctt	180
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gcccttgaac	tgaccgacaa	ggccgaactt	acggaagaaa	ataatatact	ggaaggcatc	660
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tatcatcgat	acgaatttga	agtgctggct	atggatagcc	ggagaatcct	gaaagtgaag	1320
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 <211> 195

<212> DNA  
<213> B.fragilis

<400> 2006  
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<210> 2007  
<211> 1113  
<212> DNA  
<213> B.fragilis

<400> 2007  
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gaacttccct ggagggattc ggcatatccg tatgtaatat ggatatcgga aatcattctt 180  
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gcggctgtgg cggatgaatt gctggataga aagaaccccg cattatacaa tcaggctatt 600  
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gctgacagtt gtgcggcgct ggcaaagggg acagtggcgg agcttccggt caagcagcac 720  
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&lt;210&gt; 2010

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2010

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&lt;210&gt; 2011

&lt;211&gt; 2346

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2011

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 <212> DNA  
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 <212> DNA  
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&lt;210&gt; 2018

&lt;211&gt; 900

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2018

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&lt;210&gt; 2019

&lt;211&gt; 876

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2019

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&lt;210&gt; 2020

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2020

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&lt;210&gt; 2021

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2021

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&lt;210&gt; 2022

&lt;211&gt; 1584

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2022

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&lt;210&gt; 2023

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2023

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ccttcttatt	cgatagctgt	tggtaatcct	gctactgtaa	ttaaaaaatt	taacaaaacg	600
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&lt;210&gt; 2024

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2024

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&lt;210&gt; 2025

&lt;211&gt; 1590

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2025

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<212> DNA  
<213> B.fragilis

<210> 2027  
<211> 315  
<212> DNA  
<213> B.fragilis

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<210> 2028
<211> 918
<212> DNA
<213> B.fragilis
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<210>	2029
<211>	225
<212>	DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2029

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accaagtgtg	agaatctaaa	aaataattgt	gtacatttgc	aaaagactaa	cttcaatgcc	180
ccatggatac	accgatcaat	gccccgctta	gaaaactccc	gatag		225

&lt;210&gt; 2030

&lt;211&gt; 1530

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2030

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&lt;210&gt; 2031

&lt;211&gt; 1089

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2031

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cgtattgccg	gcttgggagc	gaatatccct	tcttacgaac	atagaaacag	ggaagccgtg	480
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gacaagatac	tcaacataca	tttgagttag	caaatatggg	aaaataacga	ggtacttgta	660
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 <212> DNA  
 <213> B.fragilis

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ggattaggaa	ccagtcctccg	gttaatggct	tctgccggta	tttgcaaaag	ttttctggaa	180
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<210> 2033  
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 <212> DNA  
 <213> B.fragilis

<400> 2033						
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2035

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2035

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agcctgcaga	cagagcaata	tcaaatgag	gaggggatta	atccactgag	gtatccatat	660
tgtgaatatt	tgattttacc	ttaa				684

&lt;210&gt; 2036

&lt;211&gt; 1941

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (11)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2036

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acattgaatg	ttgaatttta	a				1941

&lt;210&gt; 2037

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2037

ccggttgtggg	tcatagacgg	ggcagtatac	gaggatcttg	tttcacttac	acttgatcaa	60
ttggcttccg	gtgatgcgg	aacccttatc	agttcggctg	ttgccggact	gaatgcatct	120
gatatagaag	atattcaggt	attgaaagac	gcctcggcaa	cttccatcta	tgggtgcccg	180
gcattgaacg	gagtgatcgt	aattaccacc	cgggtccggt	aaagaaatgc	accgaacaga	240
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cttaattctc	aagagagtat	gtctgtttat	caagagatgg	gcagaaaggg	atattttctct	360
ttgcaaaaata	cgctatatgg	tcgtcgcagc	ggagtatat	atcagatgta	taaggcactt	420
aataccattg	atccggctac	cggccaatat	tatctggaga	atacggatga	tgtcaaaagg	480
gcattcatgc	gtgaaagaga	gtatgctaac	accaattgggt	ttaaagaact	gtttacacat	540
aggcctatcc	atacacatac	tgtgaccttt	tcaggggggag	gggagaactc	tgcaatgtat	600
gcttccatcg	gttttttatga	tgacagagga	tggacttttg	ccgacaatgt	taaaagaatt	660
acggccaaca	tcaagaactc	tttttactgg	aacgaagata	agataaaggc	tactatatcc	720
gcacaaggga	aatctacgta	a				741

&lt;210&gt; 2038

&lt;211&gt; 513

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2038

gaaagcttat	ctttatgtca	tatagattgt	gtatctttgc	acgcgaaaac	aaaaaaggat	60
aatatgtgtg	gaatcgtagg	ctacattgggt	aagagagaag	cctaccccat	ccttatcaag	120
gggctgaagc	gactgaagta	tcgcggatac	gacagcgccg	gggtagcgat	catcaacgac	180
aaccagctgt	taaatgtata	tcggccgcaa	ggcgaaacgt	tcgtgtttgc	ttctgacggc	240
attatcgaga	ctcccaccgt	tatcctccaa	gaatttccat	cccaaagtta	catcttccgt	300
aacagtacct	atacagaggt	acccgtttat	tccttttctt	ctttccgccc	gatgcatcag	360
ttttgtaaga	taacggcttc	tcgtgcagtg	aggccggaaa	cattaaagtg	ctctgattcg	420
ttgataatta	gagaggcttt	ttctgacaca	ctgttgcaag	gcgggaaaga	tgaagcgacc	480
gggataaggg	aagagagtgt	gactatggag	tga			513

&lt;210&gt; 2039

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2039

aaacataaat	cctttaaaac	aattacaatt	atgtgtggaa	tagcaggaat	cttcaatata	60
aagattcaga	gcagggaact	caggaacaag	gctctccgaa	tggcacgcaa	aatacgtcac	120

cgcggggcccg	actggagtg	aatgtattgt	ggcgggaagt	ccatcctggc	cacacgagcg	180
cctttccata	gtcgatccgc	aaagcggagg	acagcctctt	ttattcatcc	gaccggaagc	240
aagtactggc	ggttaacggc	gaaatctata	accaccgtga	catccgcgcc	caatatgccg	300
gccgctacga	gttcgggacc	gggagtga	gtgaggtga			339

&lt;210&gt; 2040

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2040

gatatgaaat	caatgaatta	ttctcttata	cgcactat	gtgcgctt	catcggtctg	60
gtactggtag	tctggccgga	tgcggcaatt	aactatattg	tcataaccat	cggcgctcctg	120
ttcctgattc	cgggatttat	tgtgctgata	ggctatttctg	gaacaaagcc	ggaaccgggt	180
gtgtcccgcc	gtttcccat	cgagggagtg	ggcagtcctgc	tattcggact	ttggctggtc	240
acgatgccgg	ggttctttgc	cgacgtactg	atgttccctgt	tgggctttat	cctgattatg	300
ggaggtgtgc	agcagattgc	ctctctttctg	atggcacctgc	gttggacgcc	cgttccggga	360
ggtttctatg	tgataccggg	cttgatcctg	atagcgggta	tcgtagccct	gtttaatcct	420
accggagcac	gtaatacggc	ctttatgatt	atcgggtgtca	gtagtttggg	ttatgccgtc	480
tccgagctga	tcaactgggt	caagtttgcc	cgcgcgtcgc	ccaagactcc	cctgaaagga	540
gagattgagg	atgcggagat	tatcgaataa				570

&lt;210&gt; 2041

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2041

gactcagtgt	cactctgtgg	tgaacccaac	tttaaacc	aaatgatgaa	cgacaaatta	60
ataaaagtct	gcgggatg	cgaagctgaa	aatatctgtg	aggtagagca	actaaaggtg	120
gacatgatag	gctttatctt	ctatccgaaa	tctccccgtt	gcctctacga	acttctctgc	180
tacatgccgg	tcaaagcaaa	gcgtgtcggt	gtctttgtca	acgaagacaa	aaaggagatc	240
gaaatatattg	ccgaccgttt	cagcctggat	tatatccagc	tgcatggcaa	tgaatcgccg	300
gaatactgtc	atctgcctccg	ggctaccgga	ctgcggctga	tcaaagcgtt	ctccattgcc	360
cgaagaaaag	actttgaaaa	catcggaact	tacgaagagt	cctgcgacta	tttctgttgc	420
gacaccaa	gcgaacaaca	tggcggctca	ggaaatcagt	tcgactggag	catgttaaac	480
agctataaag	ggaaaaagcc	ttttctgctt	agtggaggca	tcaatccata	cagtccgccg	540
acactgaaag	agttgcgcca	tccacaactg	gcaggcttcg	atctgaacag	ccgtttcgaa	600
acaaaaccgg	gattgaaaga	tgtggaaaga	ctcaggcact	ttctggagga	actgaggaaa	660
taa						663

&lt;210&gt; 2042

&lt;211&gt; 2325

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2042

ttctactata	caaaaatgaa	aatgaagaaa	tatatat	tcctcgtag	cctgtgctgt	60
gccctgttgc	ctgctatggc	cgaccaaccg	gaacatccgg	aactgaaagc	gtctgatgcc	120
aatatcatcg	gccatgtact	cgataaaaaa	acaggtgaac	acctctctta	tataacaatc	180
gccctgaaag	gaactaccat	cggtagcgtg	acggatgcca	ccggacacta	tttctgaaa	240
aaccttcccc	aagggaattt	tgtgctcgaa	gccagttcgg	tggggtataa	aaccatcagt	300
cgcaatgtca	gtctcaggaa	aggaaagaca	cttgaagaaa	atthtgagtt	ggaagaagat	360
gccgtagcgc	ttgacggagt	ggtagtgtcg	gccaatcgca	gcgtgaccaa	acggcgcttg	420
gcacctacat	tggatcaatg	ggtagatatg	aagatgtttg	agaatacaaa	ctcgccctaca	480
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ggtttccagc	aggtgctcat	caatggactg	gacgggtccg	atacacagat	tcttatcgat	600
tcgcgtccca	tcttcagtgc	cctttccggg	gtttacgggt	tggaacagat	tcctgccaat	660
atgatcgagc	gggtagaggt	gatgcgaggc	ggaggtttctg	ccctgttcgg	ttcgtccgct	720

attgccggaa	ccattaatat	catcaccaag	gagccattgc	gcaattcggg	gcagttggca	780
catactctta	cttctatcgg	cggcagctcg	tctttcgata	ataatacttc	gctgaacgca	840
tcgctggtga	ccgatgatca	tggggcggga	ctttatgtgt	tcggacagaa	ccgtcaccgg	900
gatgcgtacg	atcatgatgg	agacggttat	tccgaaatgc	cgaaacttaa	aaaccagaca	960
gtcggcttcc	gttcgttcc	caagacaagc	acttattcta	agttgacatt	tgagtatcat	1020
cacttacagg	agtttcgtcg	tggcggaaac	ctgctgaacc	gtccgcctca	cgaggctgac	1080
attgccgagc	agattcagca	ctccatcaac	ggcggcggct	tgaaattoga	ttattttgct	1140
ccgaatgaaa	aacaccgtct	gaccgtttat	acttcggcac	agcatacggg	ccgcgacagt	1200
tattatggca	gcaaaaaaga	ccagaacgcc	tatggaaaga	caacggacct	gacatttata	1260
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tcgctcgggt	tccgtgcccc	gcaggctttc	gacgaagacc	tgcatattga	gaatgtaggc	1620
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ggtttttata	ccagactgtc	ggatgtatct	gtactcgaga	acattggaga	gcgggacggc	1800
attcttatca	aagagcgccg	taacggatcg	ggagccaaag	tattgggact	gtcgatggag	1860
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cgttatgacg	aaccggaaaa	gtggagcgaa	acggcaccgg	ccgagaagaa	gattttccgt	1980
acgcgaata	cctatgggta	ctttacggca	acgtatacgc	cgatcaagcc	tctgtcatta	2040
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aaggatgtgg	cggtgaatac	gcgcgatctc	ttcgatatgg	gagtcagggt	ggcctatgat	2160
ttcaaaacttt	ataaatcggt	ggacctgcaa	ttgagtgcag	gtgtgcagaa	tgtgttcaat	2220
gcttatcaga	acgatttcga	ccagggagtg	gagcgtgact	ccggatatat	ttatggtccg	2280
gctgctccgc	gaagctatct	cgccggaata	aagatcagct	attaa		2325

&lt;210&gt; 2043

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2043

ccaactctcc	cgattatggc	actgaaagag	aaaatcaaac	agaatccgc	actgaaacaa	60
gctgtacacc	gtttttattat	gcacccggta	aaaacacgtc	ccaactggtg	gatacgtata	120
ttctctttcc	tctacctaaa	acgtggaaaa	ggctctgtga	tttaccgtag	cgtacgccag	180
gatctttccc	cattcaatct	cttctctctc	gggaagtatt	cggtagtggg	agatttttcg	240
tgtctgaaca	atgctgtagg	cgacctgatt	atcggggaat	ataccggaat	cggactgggc	300
aacaccatta	tccgccccgc	aacctcgggc	aacctgtaa	acctggcaca	gaatgtaacc	360
gtaaccggcc	tgaaccataa	ttatcaggac	acaggcaagc	ggatagacga	acaaggagta	420
agcacacaac	ccatcacgat	tgaagatgat	gtatgggtag	gtgccaatcc	ggtaatttta	480
cccggtgga	cactgggcaa	acattgcgta	gtagctgccg	gaagtgtagt	cagtcgctcc	540
atccctccct	actctgtctg	tgcgggcagt	ccggctaaag	tagtcaaaca	gttcaatccg	600
gagagccgaa	cctgggaaaa	aacagtctca	aaaaacggaa	agtaa		645

&lt;210&gt; 2044

&lt;211&gt; 633

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2044

caatcgcccc	ctccccctcc	catttatagt	gatagctacc	ctgctatttc	cattataaat	60
ggggattttc	tatttctgcc	ggaccgccta	tctttgcogt	atcattttaa	aacaagatca	120
gaaatgaata	agattggagt	atcttacggt	tcacaacggg	ggactaccga	agatgtagcc	180
caccggattg	cagaaaaact	gaacgttccc	aatggtgaca	tccacgatgc	ctcaaaactg	240
aacgacgagt	tagtgaaaga	atatgatgta	ttagtactgg	gcacctctac	gtggggagca	300
ggcgagcttc	aggatgactg	gtacgacggg	atcaaagtgc	tgaagaaggc	tgacttgtct	360
cacaaattcg	tagccctctt	cggctgtggc	gattcagact	cttacagtga	caccttctgc	420

gacggtatcg	gcattcttata	cgaagaactt	aaagacaccc	actgcacctt	ctgccccggca	480
accgatccgt	cgggctacac	attcgactct	tctgttgccg	taatcaacgg	caagttttgta	540
ggacttcctt	tagatgaagt	gaacgaagat	ggcaaaaaccg	acgagcgtat	cgttcaatgg	600
actgaagcct	tgaaaaaaga	atgtatcaac	ttaa			633

&lt;210&gt; 2045

&lt;211&gt; 1461

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2045

aactcgggtgt	tactctatgg	tgaatccaaa	atcaaattaa	aaagaaatga	aattatgaat	60
gccttcaatt	ataccaccca	tagcaagcaa	gtcctgggcg	acctgcacac	tccggttaagc	120
atttacctca	aagtacgtga	tatgtatccg	caatccgcat	taatggaaag	ctcggactac	180
catgccggag	aaaactctct	ctcgttccatc	gccctctgcc	cactggcaag	catcggcatc	240
aacagtggaa	tcgtaaccac	tacttaccac	gacaataccc	gccgggaaga	accgctcagc	300
caatcgttcc	gggtagaaaa	tgcgctcaac	cgctttatca	accggttcca	tgtggaagga	360
gacgacaaga	aattctgccc	gtatatacggc	tacaccacgt	tcaatgccgt	gaagtatttt	420
gaacacatcc	ccgtgaaaga	aagtcacgac	gaacagaatg	acgtccccga	cttactatac	480
atattatata	agtatatcat	cgtcttcaat	cactttaaga	atgaactcac	tctggtagag	540
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aactatgctt	catacaatth	ctctgtgacc	ggccctgtca	ccagcaccat	caccgacgaa	660
gaacacaagg	caaacgtacg	caaaggcatc	gccattggcc	tgcggggaga	tgtcttccag	720
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gctttgcgaa	gcaccaaccc	ctctccctac	ctgttctatt	tcgatttcgg	cggctaccgc	840
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gctcttttgg	ctgatccgaa	agaaaacgca	gaacatgtaa	tgcgtggtga	cctggcacgc	1020
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tacagccatg	tcattccatc	ggtagagccg	gtcagcgggt	ctctgaacaa	cggagcaaat	1140
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agccgcaaca	acgaattgtg	gttccaggcc	ggaggcggta	tcgtagcacg	cagtcaggac	1380
gaatacgaac	tgaagaagt	caataataaa	ctggggggcc	tgaaaaaggc	aatagacctg	1440
gccgtaaaac	taaaaaactg	a				1461

&lt;210&gt; 2046

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2046

aattacccgc	cccacatcag	aaaagccata	aaggcttttc	tttattacct	caaaattcct	60
aaaaacacaa	tcttcttttt	acctaataaa	ctttcaataa	cctattcttc	ttttaccttt	120
aaaaatcttt	acctaattga	aaatcacttg	aaacttttta	ataccttaaa	tctttatcta	180
atacctaata	ttctatttta	ccttaaatag				210

&lt;210&gt; 2047

&lt;211&gt; 1023

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2047

gagcgaagca	cgatagtaac	aatcaatatt	aaaaacgtag	aacgtatgga	aaacgtagtt	60
cctccgttca	aagtagacgt	tgccggtact	tttcttttgc	ccgctgcatt	gagagaagcc	120
cgtgagcaat	atcgaaacga	acaaatcagc	ctgctgacct	tgcgtgctgt	cgaagatgcc	180
gagatacgga	atctggtaga	cagactgaag	gcagaagggg	tgaagggtgt	cactgacggc	240
cgtttccgca	gtgatgcgtg	gccgctcgac	tttatgtgcg	gattggatgg	tatccggttc	300



cgggatgaca	gaaagacctc	tgtcgaactg	accgggtcgg	tcgatgtaca	tcaccatcct	360
gtgctcgatg	atcttgtctt	tcttaccggg	gtgaccgggtg	gagatgtaat	agctaagcaa	420
gtgcttcctg	cgccttcgcg	cctgctggca	gaattaatga	aagacgcaaa	cgggaccgaa	480
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cgtacgggtga	cggataacgc	gatccgtgtc	aacaacatgg	cattggagaa	tcttcccgcc	660
gatcttttca	ttgcttttca	ttcacctacc	gagatgcttt	tctcgctaca	gggaattcat	720
gcttttttcc	tcgattacga	ttcggaatgt	tgccgcaaga	accgtttgtt	gtggttcatc	780
cgcgagaagc	aatctgtgtt	tggcttcgta	ctttcccat	atcccggtga	ggaagagctg	840
gaagagttga	gagccaagat	cgaccagatc	atacgttata	ttccttcgca	cgttttctcg	900
ctgtgcatac	ccaatgccga	agtgttgctt	tcggaatctt	atgaagctgc	cgaagaaaaa	960
cagtggcata	cattgaaaat	ggctgaaatg	gttgccggag	aactctggcc	ggaagaagga	1020
tag						1023

&lt;210&gt; 2048

&lt;211&gt; 1350

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2048

agtaagggca	cgccactccg	gttgatccac	tccgatacgg	tcgagcatgg	cggagaattt	60
gtcgcgggtcc	tcggcattgt	cgatgctctg	ggcggatgtt	cggagaatgt	ggatgttctg	120
ggcatcgaga	cgcagggcga	gattgttagg	tatctgtccg	cgggtggaaa	caatgactcc	180
gtacggatcc	tccagttcaa	ggacatccat	cacgcgttcg	aatgtcagtt	cgtcaaagta	240
aagccgggtca	cacatatcat	agtcgggtcga	tacggtttcg	ggattatagt	tgatcatcac	300
cgaacgccat	ccttccttac	ggatcgtatt	aagcgctgc	accccgacc	agtcgaactc	360
cacggaagaa	cggatccggg	aggcaccgca	accgagaacg	acgatagaac	gatggtcacc	420
caggtaagtg	acgtcgttgg	ctgtgccgct	ataggtcagg	taaagataat	tgggtctgtgc	480
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gtcggctatc	tgcttgtgat	tgttccccca	ctgatggagt	tcctcagaag	tattcatgat	720
attcatcaat	ttctggagga	accacttgtc	gatcttagtc	agttcgtgca	cctgatcgat	780
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gttacattct	cccacaatgc	cgatgtggcg	gatgatgagg	atggcgagct	cgcgcagttt	1320
atgatactcc	ttatttggtca	gggtttgtga				1350

&lt;210&gt; 2049

&lt;211&gt; 2442

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2049

gcaaaacaaa	caggtatgaa	aacatcaatt	aacaaactat	gtattgctgc	gtcgatactg	60
gttacggctg	cgggcatatc	cgcttgtgta	gacgacaaca	aaactctcta	tgatccggag	120
tataagactc	ctaattccgat	ggaggaaatc	agtgcaccga	cgggatttga	ctggctcgtcg	180
acccatgcc	ttaaattcaa	tgtagaggtt	aacgacgaat	ttgacggaca	gtattattat	240
accgtagaaa	tagtagataa	aaaccgcgtt	gaagcaacga	cagaagagcc	ctataatacc	300
ttagccaaag	gagttgccag	gaaggggagaa	acttatcaga	cgaagtgggt	atcttccaaa	360
gataccaaat	atctttatgt	ccgtcagact	gacccacgtg	gcagagaccg	gattaaacag	420
gtagaaatag	acgagtcaac	ctcccatatt	cagtgtctct	ttacaggtac	atctgcaatc	480
aaaacgagag	cttttgcaac	caccaagggg	aataacggag	gaattgacat	tccgaaaaga	540

acagaacaaa	actatgacat	cagccgggct	atcccggtaa	caagtccttc	acaggttctg	600
caaggaggcc	aaacctatat	tgttacggga	aacttttcag	gtaaattcac	agatatctct	660
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&lt;210&gt; 2050

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2050

gggaaaagaa	cagattcagg	aaacaatcaa	ttactacatg	accaatgcc	ggatcatgaa	60
agagggcctg	gaatctaccg	gcctgaaagt	gtacggaggg	gtgaacgcac	cctattttatg	120
ggtaaaaaac	tccaaaacgg	aacaagctcg	tggcgcttct	ttgaccagat	gctatacgaa	180
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ctgacagcat	ttggcgagcg	ggatgattgt	atcgaagcga	tgcgacgcat	caagaaccga	300
ctgtaa						306

&lt;210&gt; 2051

&lt;211&gt; 1341

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2051

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agaagaatta	ataggaatag	gaatatgaaa	cgagttatct	tttctttgtc	tttttccctg	120
tttgccctgc	tgatgtatgg	acagatcacc	cttgaagagt	gtcaacggaa	aaccgggaa	180
aactatccgc	tggttaaggca	gtatggattg	atagagaaga	caaaagaata	taatctggcc	240
aatgcgtcga	aaggttatct	gcctcagttt	accctttcgg	gtaaggccag	ttggcagagt	300
gaggttacgg	aattgcctgt	acaggttccc	ggagtagata	tcaaagggtt	gccgaaagac	360
cagtatcagg	tgatgctgga	actgaaacag	aacatttggg	acggcggtga	gattcgttcg	420

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tatgcaactta	cggagcgggt	gaatcaagtg	tatttcggaa	ttctgttact	ggacgaacag	540
ttaaggcaaa	accaactctt	tctggaagat	ctggaacgta	cccataagca	gatttcacgt	600
tacattgaga	atggcatagc	cagccagtc	gatctggatg	ctgtcagtgt	ggaacagctt	660
aatacccggc	aaaagcggat	agaactgacc	tcctctcgtc	aggcctatct	gtctatgctt	720
gcattgctga	caggcgaaga	gatgcctgcc	gggatctctt	tgcagaagcc	ggtgccggaa	780
tgggatatac	cgggtgatagc	gaataaccgt	cgggagctga	tatggtttga	tgcgcaaaac	840
ggacgtttac	aagtgcagga	agaagctttg	aaaactcagc	tgatgccacg	tttcgggctg	900
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aagtatacaa	cgaataatta	a				1341

&lt;210&gt; 2052

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2052

tatgacatgg	caaaaataca	aattaaatct	gagaaactca	caccttttgg	aggaattttt	60
tcaatcatgg	agaaatttga	ctccatgctt	tcaccggtta	tcgactcaac	actgggtcag	120
agatgcagca	gtatcttcgg	atatcagttc	agcgagatag	tccgttcgct	gatgagcggt	180
tattttctgtg	gcggctcatg	cgtggaagat	gtaacgtcac	aactgatgcg	ccatctctcg	240
tatcatccta	cccttcgtac	atgcagctct	gataccatcc	tcagagccat	caaggaaactg	300
acacaggaaa	acatctccta	tacttccgac	caaggcaaga	cctatgattt	caatactgca	360
gacaaactca	acacattgct	tataaacgct	ttggtttcta	caggcgagtt	gaaggaaatt	420
gaggaatacg	atgttgactt	tgaccatcag	ttccttgaaa	cggagaagta	tgatgcaaaa	480
ccgacctaca	aaaagtctct	cggctacagg	cctggcggtat	atgttatcgg	tgacaagata	540
gtctatatcg	agaacagcga	tggttaacacg	aatgtgcgtt	ttcatcaggc	agacacccat	600
aagagattct	tcgctcttct	ggaatcccag	aacatccgtg	taaactcgctt	cagggcagac	660
tgcggttctt	gctcgaagga	aatcgtcagt	gagatagaga	agcattgcaa	acatttctac	720
atccgtgcc	accgatgcag	ttcgctctac	aatgacatct	ttgctctgag	aggatggaag	780
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cctgccaaagt	ggatcatgac	tgcaaggcaa	tacgtgctga	atatctacac	agagaaccga	1260
gcttatgcaa	aacccttcaa	aacagaattc	ggataa			1296

&lt;210&gt; 2053

&lt;211&gt; 1155

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2053

acgaagcatt	tattaactac	atcgagcagg	tgtaccaatt	ttaaaagaaa	ggtgaactta	60
aataaagaaa	agataagaat	gaagaatgtg	actttgatcc	ttgacgacgg	gagccgtttc	120
cacggtaagt	cgttcgggtta	cgaaaagccc	gtggcagggtg	aagtagtggt	caataccgcc	180
atgaccgggtt	atccgggagag	tctgaccgac	ccttcgtatg	cggggcagtt	gatgacactg	240
acgtatccgc	tgggtgggcaa	ctatgggtgta	cctcctttta	gcatagagcc	caacggactg	300
gctacgttta	tggagagcga	acgcattccat	gccgaagcta	ttatcgtaag	cgattactca	360
caggaatata	gtcattggaa	tgccgttgag	agtctggctg	actggctgaa	gcgtgagcag	420

gtgccggggca	tcacagggat	cgatacccggt	gagctgacca	aagtgttgcg	tgaacatggg	480
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agtggagtga	actatgtaga	caaggtttca	tgcaaagagg	tgatccgtta	taacgagggg	600
gcggaacaaga	agaaagtggg	gcttgtggat	tgccggtgtga	agacgaacat	tatccgttgc	660
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aatcatgggt	atgcggtaga	caataatata	cttggcaccg	actgggaacc	gctgtttatc	1020
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cagttccatc	cggaagcagc	cagcggaccc	acggatacgg	agttcctctt	cgacgagttc	1140
gtgaagttgc	tctaa					1155

&lt;210&gt; 2054

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2054

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gtggtgaatc	ccccaaacaa	tttcaaaaca	atgaacaacg	agataaatat	ccttaacaga	120
cagaaaggag	cgattctcct	tctggacaat	tatgactctt	tcacctataa	cctgctgcac	180
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gccggactgt	tactgcccat	catccggaaa	tatgcggaac	ccaaaagtat	cctgggagtt	360
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cggacgtacg	acgtacatgg	cattcagttt	catcccgaat	cggtgctgac	tccacaggga	660
aaagagataa	tcaagaactt	cttaaaacaac	cgataa			696

&lt;210&gt; 2055

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2055

tggttggtttc	tggtttttaa	taaattatat	ctgagaaaca	atataaataa	caaaatgttt	60
aaaaagagtt	tccttttcaa	acgatcaata	attcttccct	acatctcatg	tacatataat	120
gtacatctgt	tagggccaaa	agtccaaggg	ccattctatg	cgccaattga	atcggagaag	180
aaagataaaa	agacagcaat	aacatctaata	aatcaaatag	ttacaaataa	caaccaacaa	240
aaacagtggg	ctaaaaaaaag	cagaaagggtg	aacagtaaaa	agaatacgtat	ttaa	294

&lt;210&gt; 2056

&lt;211&gt; 1497

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2056

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catgcctata	ataattcaaa	accaagtctt	ccaatatttc	aaattaatta	tctacattta	120
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cagattgatg	gtctcaaagg	gaattatgcc	acagccgcac	aaaactcgcg	aagcattatg	540
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gatattaccc	ccaacggcat	cccggccgaa	gatgacggaa	acatcggcat	ggatatgatc	1440
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&lt;210&gt; 2057

&lt;211&gt; 1089

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2057

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gctctggaag	atttttaattt	cgaccatcta	ctaaaacacg	taccggaact	aaaaagattc	180
aattatcgta	tctcttctta	ccagtttgat	ccccccatcg	actcctcgga	tatggaaccg	240
gcatttttggg	ccaaactggg	tgaataata	aactacaact	acgattcttt	tgacggcttt	300
gtgatcctgc	acggcaccga	cacaatggcc	tatacagctt	ctgctctcag	tttcatgctc	360
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tatgacagca	cgcgggaatg	tgcagtgacc	aaattgatgt	tctctttagg	acacggactc	1020
gataataaag	agatcagata	caagatgaac	tcttgcctga	tcggtgaaat	aactaaaagg	1080
gtcgaataa						1089

&lt;210&gt; 2058

&lt;211&gt; 1161

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2058

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gctgaagggg	catttttatgc	cattcaaaac	agtagaaaag	caagcgaatt	tatcgataaa	120
atcgtgaga	aatatgacat	agtgattctt	ttcgagcaac	ggatcatctc	aaaagacatc	180
cccgaaatcc	aatatctgag	aaagaaattt	ccgggagtat	atatcgctct	cgttacagag	240
ggaatcaata	aggaagaccg	accogcttac	ctgaaggccg	gtatcaataa	ttcaatacca	300
tttaattcta	cccccgaaac	ttttaagac	ataacggagt	ttatgatgcg	gcgcaagcag	360
caaaaagatta	atgatatcca	caaaaaagga	gcaaatctac	tgttcttcaa	gctcccttta	420
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gccccaaact	tttctttctt	actcgacatg	gagattatcc	taaggacttt	caccgcgttt	1140
atacaaaaag	aaaacgtata	a				1161

&lt;210&gt; 2059

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2059

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tgcccaaac	ttaacggaat	gaaccaagg	tcctgaaaa	taatgagagg	gtttcggcct	120
gtgctattta	attgggacat	gccaggatc	acactcttta	ctcactcgca	tgtagtgaat	180
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gtcgaatttc	aattgattca	tctgctgaac	cactgggtga	ctacggaagc	cggtatcttt	300
tttctctctc	tccagtttat	tgttctgtctg	ctctataccc	tttcgtggcg	tccggatagg	360
gcaggatact	gttcgtccgt	cgtgggcgtg	gtatctttgc	gggcacctcc	tgccgggagg	420
tag						423

&lt;210&gt; 2060

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2060

ttacacttac	ataaattaaa	aataaagatg	aaaaagttat	ttgcattatt	attcattttct	60
atgatttcgg	gaatgataat	ggcccagatc	cgggaggttt	cgggcactat	tgtgtttaaa	120
aaggacggac	agcccgctgt	tggggcattg	gtgagcgtat	taggaacaga	tatcagcacc	180
atcacagacg	tgcacggacg	ttttactcta	aaagaaatcc	ccgaaaaggc	acagagaata	240
cgggtaaaaat	acatcggtat	gcaacccaaa	gacgtaaaaa	taagacccat	aatgaatggt	300
accctcgact	tagagaaaaa	actggcattc	tttatacaag	ccgggggttg	agtcagcggg	360
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ggaaaataca	ctgacgaatg	ggaggggaca	agcatgaaat	tcgatctgtt	tagcgggtgac	720
gaagccgttc	tcaaacggtt	cgatgcagga	gtgcaggcag	ggtttgctta	cgaaatcaaa	780
cacatcggtt	tctcgtagac	tttcgggatac	ggactcctaa	aaccatttaa	agaatggaat	840
aaagaatggg	gagcgactcc	acacaacatc	agccacaact	tcggacttaa	atatatattc	900
tga						903

&lt;210&gt; 2061

&lt;211&gt; 1206

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2061

ccccaaatac	aaataacaaa	taaatatagg	attatgaaaa	gttttttagt	tgatcaggat	60
ggctatttacg	gagaatttgg	aggtgcttat	gtacctgaaa	tcctccacaa	gtgtgtagaa	120
gagttgcaga	atacttatct	cgacgtaata	gagagcgagg	acttcaagaa	agagttcgac	180

caattgttgc	gtgactacgt	aggacgcct	tccccactct	atccggccccg	ccgcctgtcg	240
gagaagtacg	gttgcaagat	gtatctgaaa	cgggaagacc	tgaatcacac	gggtgccccat	300
aaaatcaata	acaccatcgg	acaaattcta	ctggcaagac	gcatgggtaa	gaaacgtatc	360
attgcgagaga	ccggtgccgg	acagcacggg	gtggcaacag	ccacagtctg	tgccttgatg	420
aacatggagt	gcatcgtata	catgggcaaa	acggatgtag	aacgccagca	catcaatgta	480
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tatcccggtg	tccgcccgat	gcacgccaac	ctggcagaca	aaaaacgggc	aatgggtactg	1020
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attcctgccc	tggaatcggc	ccacgcattg	ggagccttgg	aaaaaataac	tttcaagccg	1140
gaggatgtag	tcgtactgac	ggtatcggga	cggggagata	aagatataga	aacttatctg	1200
ggataa						1206

&lt;210&gt; 2062

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2062

atctcaaaac	aatctcgaac	aaaattcaga	cagatttctaa	aacaccctga	aataaagatg	60
attaaagcat	ttttgaaaaa	gaaccgactc	acatttatcg	gtctcgtcac	tggagctgta	120
ggaggattcc	tgtattggaa	atacgtagg	tgcaccagcg	gaacttgtec	cattacctct	180
tcaccggtca	acagtaccct	ttggggagct	gttatgggcg	gcctgctctt	gaatcttttt	240
aaaacagaca	gtaccctcta	aaaaacaaac	ttaa			273

&lt;210&gt; 2063

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2063

gttcctgagc	aacaaaaagt	tgcccaggat	tttgccatgt	cagaattttc	acttatctta	60
gtgttgcaaa	aagaaaaaca	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
ctgagaaact	cacacctttt	ggaggaattt	tttcaatcat	ggagaaattt	gactccatgc	180
tttcacccgt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

&lt;210&gt; 2064

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2064

aaaccatata	aaagtattatt	caaggaaaat	ttaaacagg	tcttaattaa	ttgttttctt	60
ataaaacaaa	tttccaacgg	aaagtactac	ggggataaca	ttctttatgg	aatgaagaag	120
gaaggaggta	gtagggtgtg	tgtatccggt	agagaggtag	ttcggttggg	gggtgaattg	180
atttcaccac	aaattgaaac	agagtcctac	ggagttttct	gttattttct	tctctgtgga	240
actctgtgtt	accctgtgat	ggtgagactt	tctaatagtt	catctcccta	tgccattaat	300
gtattggccc	gatga					315

&lt;210&gt; 2065

&lt;211&gt; 1149

&lt;212&gt; DNA





taccggatcg	gttcttccgt	ggagttcgac	tgggtgcgggg	tgcaggcget	taatacgatc	1800
cgtaaggaag	gatggcggtc	ggtgatgatc	aactataatc	ccgaaaccgt	atcgaccgac	1860
tatgatattg	gtgaccggct	ttactttgac	gaactgacat	tccaacgcgt	gatggatgtc	1920
cttgaactgg	agaatccgta	cggagtcatt	gtttccaccg	gcggacagat	acctaacaat	1980
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ccggagtggc	gtgcccttac	ttcacttgag	gacattaaact	cgtttgctga	taaggtaggt	2160
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gtttattggc	ccagtgaaga	gggacatccc	caggcactcg	agatgttgca	taagaaagag	3060
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aagatccgtc	gtgccgccat	cgacctcaac	atcccgtgga	tcactaatgc	ccgcctggcg	3180
agcgcgttta	tcaatgcggt	ctgcacgatg	gacattgacg	atatagcgat	caagtcgtgg	3240
gaagagtata	agtaa					3255

&lt;210&gt; 2067

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2067

aacataaaca	atatgacaaa	cgaactggaa	ctgaaatacg	gttgcaaccc	caacccaaaag	60
cccgcgcgta	tctttatttaa	agaagggtgag	ttgcctatcg	aagtcctgaa	cggacgcccc	120
ggatatatca	atctatttga	cgccctcaac	agttggcaat	tagtgaaaga	gctgaaagaa	180
gcgaccggac	ttccggcgagc	tgcttcattc	aagcatgtaa	gcccggcagg	tgctgcggta	240
gcagtagaaa	tgaacgacac	gttgaaagaag	atttatttctg	tagacgacat	ggaactctct	300
ccgatggcaa	ctgcatacgc	ccgtgcccga	gggtcgggacc	gaatgtcatc	atacggagac	360
tttatcgccc	tttccgatat	ctgtgacgaa	ccgactgccc	gaatcatcaa	ccgtgaagta	420
tcggatggcg	tgattgctcc	cggctatact	ccggaagcac	ttgagatcct	gagaaacaaa	480
cgtaaaggta	catataatgt	catcaagatc	gatccggcct	accgtccggc	tcccatcgaa	540
cataaggatg	tattcggaat	cacatttgaa	caggagacgaa	acgaactgaa	gatagacgaa	600
agcctgctaa	aggaaatgcc	taccgcgaac	cggatcatcc	cggccgatgc	ccaacgcgac	660
ctgattatcg	cactgatcac	tttaaaatat	acacaatcca	actctgtctg	ctatgccaaa	720
gacggacaag	ctatcggcat	cgggtgcagga	cagcaatcac	gcattcattg	taccgcgctg	780
gccggaaaca	aagccgatat	ctgggtatttg	cgccaacacc	cgaaagtaat	gaatctgccc	840
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gactacatgg	acgtactggc	cgatgggtgta	tgggaacaat	tcttcacccg	gaaaccggaa	960
gtgctgaccc	gtgaagaaaa	acgtgcatgg	ctcgataccc	aatcgggcgt	agcttttagga	1020
tcggatgctt	tcttcccggt	tggagacaac	attgagcgcg	cgcacaaaag	cgggtgtgagc	1080
tacattgccc	aaccggggagg	ttctgttcgt	gacgatcatg	tgatagaaac	ttgtgataaa	1140
tatgacatag	caatggcctt	tacaggtatc	cgccgtgttc	accattga		1188

&lt;210&gt; 2068

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2068

aacaagaaca	atatggcatt	agtaaacgaa	cattttttga	aattaccggg	aagctatctg	60
ttctcggaca	tagcaaagaa	agtcaatact	ttttaaataa	cgcacccaaa	gcgggacatc	120
atccggctgg	ggatcgggtg	cgtgaccctg	cccctgcca	aagcctgtat	cgaagccatg	180
cacaaggcag	tcgaagagat	gacatcgggc	gaaactttcc	gcggatacgg	ccccgaacaa	240
ggatatgact	tcctgatcga	agccatcatc	aaaaacgatt	atgctccgcg	cggcatacat	300
ctttcaccta	cagaggtatt	tgtcaacgac	ggtgccaaaa	gcgatacggg	caatatcgga	360
gatatcctcc	ggcacgataa	cagcgtaggt	gtcacagacc	ccatttatcc	gggtctacatt	420
gacagtaacg	tcatgtgcgg	acgtgccgga	gtattggaca	ccgaaagcgg	aaagtggagc	480
aacgtcactt	atatgccctg	cactgccgaa	aatcatttta	ttccggccat	tccggagaag	540
cgtatcgaca	ttgtatacct	ctgctacccc	aacaaccoga	ccggtaacgac	gctgacaaaag	600
gcggaactga	agaaatgggt	ggattacgca	ttggccaacg	acaccctgat	tttgtttgat	660
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ggggccaaga	aatgtgccat	cgaatttcgc	agtttctcaa	aaacagcagg	cttcacagga	780
gtgcgtttcg	gatataccgt	cgtaccgaaa	gagctgacag	cagccacgct	cgaaggagaa	840
cgcaccccc	tgaaccgggt	gtggaaccgg	ccggcaatgc	accaaattca	acggtacgtc	900
gtacattacg	caacgtgcgg	cagaagcgat	ctacactcct	ga		942

&lt;210&gt; 2069

&lt;211&gt; 1518

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2069

tcgatccgca	aagcggagga	cagcctcttt	tattcatccg	accggaagca	agtactggcg	60
gttaacggcg	aaatctataa	ccaccgtgac	atccgcgccc	aatatgccgg	ccgctacgag	120
ttccggaccg	ggagtgactg	tgaggtgatc	ctcgcccttt	accgcgacaa	aggtattcat	180
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tacctgattg	cccgggaccc	catcggtgta	atacctttat	atataggaaa	ggacgccgaa	300
ggacatgtct	atctcggcag	cgaactcaaa	gcgctcgaag	ggttctgcga	cgagtacgaa	360
cccttcttac	ccggacacta	ctatcacagc	aaggaaaagg	cgatgaaacg	ctggtacacc	420
cgtgactgga	tggaaatataa	agaggagaac	gacaagcagg	cggacagccg	gtctcccacc	480
cggcagattc	aggacgccct	tgagaatgcc	gtacaccgtc	aactgatgtc	cgacgtacct	540
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tacatcggta	cggttcatca	tgaaataaac	tacacccttc	aggaagggct	cgatgccatc	780
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ctggatgtgg	ccatgcaact	cgatcccgaa	ataaaaaatg	ctccgggaaa	agtcacgaa	1140
aagaaagtcc	tgccggaagc	ctttgcggat	atgctccctt	ccggcatcgc	ctggcgccaa	1200
aaagaacagt	tcagtgcagg	tgtgggttat	agttggatag	atacgtgaa	agagattacc	1260
gcaacggctg	tcagtgcaga	acagatggca	catgccgcag	aacgttttcc	catccacacc	1320
cctatgaata	aagaagagta	ttactaccgc	agcatcttcg	aagagcactt	ccccagtga	1380
agcgccgccc	gcagcgtgcc	cagtatcccc	agcgtagcct	gttcgacagc	cgaggcactg	1440
gcatgggaca	ccacattcaa	gaacctgaac	gatcccagcg	gacgtgccgt	aaaaggagta	1500
cacgaagaag	catattaa					1518

&lt;210&gt; 2070

&lt;211&gt; 855

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2070

gggagtgtaa	atgaagaggg	ttcgcccag	ggtttgttga	ggaaagtcca	actgatacgc	60
attcccctcc	ggctgggcga	ggacgctttc	accaccggag	aaatatcaga	agggaaaagca	120

gaaaaactga	tccggctgat	gaaagcctac	aagcaactga	tgaaaatatt	cgaagtttctg	180
gattaccgtg	cctgcgccac	atctgccatg	cgcgatgcac	gcaacggaaa	agaaatcacg	240
cgcaagatag	aaaagaaaac	cggtatccgc	gtcgaaatca	tcgacggtca	ggaagaagcg	300
catatcgtct	acgataacca	catcgaacag	ctttttgctt	cgggccagaa	ttatctgtat	360
gtcgatgtcg	gcggcggcag	cacagaaatc	aatctgatct	gtgactccga	actcaaaagt	420
tcacgctcct	acaacatcgg	aaccgtgcgc	atgctcagcg	gcatggtgaa	aaacgaagaa	480
aaagagcaaa	tgcgaaccga	cctccaggca	ttggctgccg	aatatactcc	catacagatc	540
ataggatcgg	gaggcaatat	caataagctt	ttccggctgg	cggacaaaaa	ggataagaaa	600
cagtctttcc	tcccgaattga	atcgttgaag	gaaatctgcg	aaaccttgaa	agcgctatca	660
aaagaagaac	ggatcaagca	gttcaaactg	aaacccgacc	gggcggatgt	aattgttccg	720
gcagcggaaa	tttttctgga	agtggcaaaa	caagtaaattg	caacgggaat	cacagtcccg	780
acaatcggac	tgtcggacgg	tatcatcgac	agcctctata	ccaagaatat	gcgcattgga	840
acggacgcta	aataa					855

&lt;210&gt; 2071

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2071

atatgcccaa	acgttttctt	tcttactoga	catggagatt	atcctaagga	ctttcacccg	60
gtttatacaa	aaagaaaacg	tataaccgta	cgatatcgga	tcattggatac	ttttattcaa	120
acaacagatt	tcatcttatt	tctatgcttc	agtctgatga	ctgtttatct	gggagttttg	180
gcaatagcag	cttctctaag	aaacgacact	ccatatcccc	aagcaggaaa	aagacataga	240
ttcgccattc	tggttccccc	gggtagcact	tccctccctc	tacccattta	tccggaagag	300
ctatatcaag	tattcaactta	tgaagatctg	acagaagcta	tagccgcact	gaatgaaaat	360
gatttcgatg	gtgtagtctg	cctgggagaa	accacccgga	tcgaacctgc	cttcctggag	420
gaaatcaaca	gcgttttoga	tgcgggcac	caagccattc	aactccgtca	catcacggaa	480
aaacgttcga	cccgcaaaac	atactttcag	gctctgaacg	aagaaatcac	tcaggccctg	540
ttcgggacag	gggcaaccog	cctgggagtg	tcacggtctt	tatacgggtg	ggacatggta	600
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ctgtctctga	agtgggtggag	cttactttat	atactgatgt	tcattcatttg	tctggctatc	960
ccggattatc	tggtagcaca	aaaaacaaaa	aaataa			996

&lt;210&gt; 2072

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2072

aaagcagaaa	aaatgaaaaa	gagcattctt	atcccccttc	tattcatggg	actgttggct	60
ttcgcatctt	gcaaaggaac	atccgagaat	aaatcgacca	ccgctacaga	tacggtacaa	120
gccgaaaagc	cacaatcggg	caccattcac	ctgacccgtg	cggaatttct	gaaaaagata	180
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tccaaagagt	atgccggaaa	gatttatatc	tataaagtaa	atgtcgataa	agagccggaa	360
ctggcaagag	actttgggtat	tcagagtatt	cctaccattt	ggtttgtgcc	gatgaaaggc	420
gaaccccagg	tcaatatggg	agctttatcc	aaggagcaat	taaaaggata	catcgataaa	480
gtattattga	aacaatga					498

&lt;210&gt; 2073

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2073

acggatagaa	aagctatcac	ccatcaaaga	aacatgaaag	atatattatc	tgaaatcatt	60
gccaataaac	gttttgagat	cgacctgcag	aaacaggcca	tcccatcgga	acagcttcag	120
gagaagttat	ctgacgaggt	acagccgggc	tactccatga	agcaggcact	ggcctcttcg	180
gctaccggta	tcattgccga	gttcaaacgc	cggctctccg	ccaaaggctg	gatctataaa	240
aatgcatgtc	cggaacaagt	cgtgccggac	tatatagccg	cgggtgcttc	ggcgctttct	300
atactcacgg	atgaaaaatt	cttcggagga	agcctgaagg	atattcgcac	agcacgcctt	360
ttggtgaata	tcccgatcct	gcgcaaagat	tttataatcg	atgaatatca	actgttccag	420
gccaaaattg	tgggagccga	cgccatattg	ctgatagccg	cgcactgga	ggccgatcaa	480
tgtcatgcmc	ttgccgcaaa	agcccatgaa	ttgggactgg	aagtcttgct	agagattcat	540
actgccgaag	aactgccatt	tataaataag	gagatagaca	tggtagggtat	caataaccgc	600
aacctgggca	ctttcttcac	agatgtagag	aattctttcc	ggtagccgg	acagttgcct	660
caggatgcmc	tgttgggtatc	ggaaagcggc	atctcggatc	cggaaacagt	gaaacgcctg	720
cgtaaagccg	ggttccgggg	attcctgata	ggagaaacgt	ttatgaaagc	ccaacagccc	780
ggacagaaat	taaaagaatt	tataaacgac	ctgaattcac	cacagagtga	cacagagtct	840
cactga						846

&lt;210&gt; 2074

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2074

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ggtgacaaaa	cggtgaaaga	agtctgcgaa	atgaataatg	tcgattgtca	gacgtttctg	180
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gaagaaaaga	cagtgtttta	gtatgtagat	acgctgattc	atggcaatgc	tcccaagaat	480
tatcagatca	gcaccttctc	gaaacatcac	gatcaggtag	gggaacgcct	aacggaactg	540
aagaacatta	ttattaaata	ctgtcctgcc	aaggccaata	ccaatgtgct	gaatgctgcc	600
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&lt;210&gt; 2075

&lt;211&gt; 798

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2075

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cgtgccgctt	gcgaaaatgc	ctcgggagcc	atcatcggca	gccgttttgt	cactctgctc	720
catgaagaga	agaaccggga	gaaagcaatc	acacgcttaa	aagctatttt	gaatttatca	780
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&lt;210&gt; 2076

&lt;211&gt; 1167

<213> B.fragilis

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cagggaaacc	aggatgtgtt	taaactgttt	gacagggatg	gtaagttcct	gtataatgtc	360
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<211> 222

<212> DNA

<213> B.fragilis

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agattaacac	agattattta	tcgtgttgat	tcatgggtata	aaagaatcta	tgcaaagtgtg	180
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 $\langle 211 \rangle$  810

<212> DNA

<213> B.fragilis

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gtcattgcc	atcgcggtt	ctggaaaacc	gaagggttctg	cgcaaaacag	tatcgccgcc	180
ttgctaaaag	ccgactccat	cggatgctac	ggttcggagt	ttgatgtatg	gctggcagcc	240
gatgaccagt	tagtgggtcaa	ccatgacccc	acattttaaag	ggaaaaggat	ggaaaactca	300
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<210> 2079

<211> 1884

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2079

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&lt;210&gt; 2080

&lt;211&gt; 1059

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2080

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<210> 2081  
 <211> 360  
 <212> DNA  
 <213> B.fragilis

<400> 2081  
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 gaattttatg cagactgggtc tcctcattat gaatggctgg aacctgtagt acggacttac 180  
 gagaagcaag tttccgaggt gattaaagtg aatatacgtg aggacaaggc agtggcagat 240  
 tcgttcaata tcgagacagc cccggctttt attctcttgc agcgcgggca cgaattgttg 300  
 agacaagtgg gagaactgac catcgatgaa cttaactggt tattggaaga gtttaaatag 360

<210> 2082  
 <211> 2079  
 <212> DNA  
 <213> B.fragilis

<400> 2082  
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 cgtgacacgg ccgcacgcac cttgaaacag atcggaaagc tgcacaatca atactaccgg 300  
 cagtttgaag aaacgttcgc ttgatcatg gagaagttaa agcaagaaaa catccacgtc 360  
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<210> 2083

<211> 228  
 <212> DNA  
 <213> B.fragilis

<400> 2083

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<210> 2084  
 <211> 1644  
 <212> DNA  
 <213> B.fragilis

<400> 2084

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<210> 2085  
 <211> 1029  
 <212> DNA  
 <213> B.fragilis

<400> 2085

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agtgagtttg	ccccaataga	catttgtggga	accggagggg	acggcaagaa	taccttcaac	300
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aattacgggtg	ccacttccgt	cagcggagcc	agcaacgtga	tggaaacagca	cggagtaaag	420
ttcaccgacc	atacagaccg	cctacgccgc	tcgatggaga	agtgtaacat	cgtttatctg	480



catgcacctc	tgttcaaccc	ggctctgaaa	gcggtggcac	cgatacgcaa	agcattggcc	540
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ctgctcggag	tatacaatct	cccgctgctc	cgctgtata	cctataccta	tcaggaaaagc	660
gctacccgct	ttgcggtagt	acatagcctg	gacggatatg	acgaaatctc	tctgaccgac	720
gaattttaaag	tggcgacatg	tggaaaacgag	aaaatctaca	ctccggagag	cctgggcttc	780
aaccgctgtc	gggaatccga	actcgacggt	ggaaataccc	cggaagatgc	cgcaagaata	840
tttgacgccg	taatggaggg	aacagccacc	gaagcacaga	agaatgtggt	gacgtcaat	900
gcggcctttg	ccatccgggt	gatttgtccg	gagaaaccga	tagaagaatg	tatcgccctg	960
gcacgggaat	cactggaaaag	cggcaaggct	cgggagactt	taaagaaatt	tgtcgaacta	1020
aacggatag						1029

&lt;210&gt; 2086

&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2086

aacaaaaata	gaatagcagt	tatgaaatca	atgaaattta	taggatgtct	atacttactg	60
gctttacttt	ccgcttgtgg	aagcagaact	tcggattatg	atgccacggg	aactttcgaa	120
gctacggaag	ttctggtttc	ggccgaagct	tcggggaaac	tcttgtactt	tcattgtttaa	180
gaaggtagcc	ggctgaaagc	aggcgaagaa	gtagggctga	tcgatacgct	acaactctat	240
ctgaagaaac	tgcaattgca	ggccagcatg	aagtcgggtt	aaagccaacg	tccggacgtc	300
aacaaacaga	ttgctgctac	ccggcagcag	atcgctaccg	cccggagaga	gaagagacgc	360
gtggaaaacc	tgttgaaagc	cggagccgcc	aatcagaagc	aactggatga	ttgggggtctt	420
caccacgggg	gtggaaggta	tcgcgttcat	ggc			453

&lt;210&gt; 2087

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2087

atgtatcggc	ttctcattca	tattcgggaa	agtcacgtg	aatttcggca	acagtttatt	60
gccggcgga	tcgtaagtga	aaagagtatc	tataccggta	tggaagaaat	cgaaatcgcc	120
acagttccta	taagagaaaa	cctctccgtc	gaagttcatc	accttcgttg	cggcagttgc	180
cggaatttgg	tttag					195

&lt;210&gt; 2088

&lt;211&gt; 912

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2088

atagatataa	gacatgcttt	ttataaaaaac	aaaagtcaaa	aagacatatc	tttgtgcagt	60
aacaatgcaa	aaggatacat	aaatcaacca	atattgataa	aaatggcaag	agcgattcaa	120
ttcaccaaga	tgcattggaac	agggaaatgat	tacatctatg	taaatactct	cagattttcca	180
atcgcccgct	ctgaaaaggc	agccatcgaa	tggagtgcct	atcatacggg	aatcggaagt	240
gacggacttg	tgttgatcgg	acactcggat	aaagcggatt	tcagtatgog	catattcaat	300
gccgacgggt	cggaggccat	gatgtgtggc	aatgcaagcc	gatgcacgog	caaatatctc	360
tatgaatacg	gactgacctc	caaaaacggt	atcacactgg	acaccctctc	gggcatcaaa	420
atattggaac	tacaccttga	aggacggacc	gtggaaactg	taacggtcga	catggggata	480
ccactggaaa	ccggtacgat	tgacttcgat	ggcgaatttc	cgttcctttc	tacccaagtg	540
tcaatgggca	accgcacatc	cgtcactttt	gtggacgaca	tccggatcgt	caatctttcg	600
gagatgggac	cgaagctgga	aaaacatcct	ctgttccccc	accgtacaaa	tgtagagttt	660
gccagataa	cgggagagaa	tacaatccgg	atgcgggttt	gggaaagagg	atcgggcatc	720
acacaagcct	gcgggacagg	tgcttgcgct	acgcacacct	cacgggacgg		780
acggggcgaa	ccgttaacgt	agtaatggac	ggaggcacac	tgaccataga	atgggacgaa	840
gcaacaggcc	atatatctat	gaccggaccg	gccgtaaaag	ttttcgatgg	aaccatagaa	900
ctgagagaat	ag					912

<210> 2089  
 <211> 183  
 <212> DNA  
 <213> B.fragilis

<400> 2089  
 ttgtatcgaa gcgatgacgac gcatcaagaa cggactgttaa tgacagacag tcatgtcacc 60  
 acagattaca cggatttttca cagattaata atttattttca ttgaaaatca gattaaaaca 120  
 tctgtgttaa tctgtgtaat ctgtggtgaa tacttgcccc atctttcttc tattatttga 180  
 taa 183

<210> 2090  
 <211> 201  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222>  
 (103), (104), (105), (106), (107), (109), (111), (112), (113), (114), (115), (119), (120), (121), (122), (123), (124), (126), (127), (128), (129), (132), (133), (134), (136), (138), (139), (140), (141), (142), (144), (148), (153), (171), (178), (179), (180), (181), (183), (189)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2090  
 gaatataatg gtaacaacgc tatcggggcca aatgggttaca cttttttaat ctatttttga 60  
 tttttccgcc tccaggcggc ttataaaaaa aaaaaagggg ggnnnnnana nnnnnccnn 120  
 nnnnnnnna annnncnnn nncnaatnct ttncacctt tattcaccaa natatccnn 180  
 ncntttatnc ccaaaaacta a 201

<210> 2091  
 <211> 279  
 <212> DNA  
 <213> B.fragilis

<400> 2091  
 accggttggtg gaaccgcgcg gcaatgcacc aaattcaacg gtacgtcgta cattacgcaa 60  
 cgtgcggcag aagcgatcta cactcctgag ggaaaagaac agattcagga aacaatcaat 120  
 tactacatga ccaatgcccg gatcatgaaa gagggcctgg aatctaccgg cctgaaagtg 180  
 tacggagggg tgaacgcacc ctattttatgg gtaaaaaact ccaaacgga acaagctcgt 240  
 ggcgcttctt tgaccagatg ctatacgaag acaacgtag 279

<210> 2092  
 <211> 633  
 <212> DNA  
 <213> B.fragilis

<400> 2092  
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 gagacttcgg tgatcatacg cagtgggtctg acactggccc tgaaacgttt acccaattta 120  
 aagattcaac cgggtggagtt gttgtcggta gaggcgctta atgattgtct gcgtacgcag 180  
 tttcctgaca tactggttgt caatcccacc tttggtgact tttttgatgt ggcgcgtttc 240  
 cgtgaagaga ctgccggcaa aggaatccgg gtagtagcgt tggtcagttc gtttatcgat 300  
 gcttcggttc tcagtaata cgatgcgtct ttttctattt tcgatgattt ggaggcattg 360  
 gccataaaaa tcaatctttt gcagaatatc gagcccgaag aagaggagga cagtcaagag 420  
 aatttgagcc agcgtgaaaa ggagattgtg atttgtgtgg tgaaaggaat gaccaataag 480  
 gagatagccg aaaagctgtt cctctccatt catactgtga ttacacatcg cagaaacatc 540  
 agcaagaagt tgcaaatata cagtgcggcc ggtctgacca tctatgctat tgtaaataag 600

ctgggttgagc ttagtgatgt gaaggattta tag

633

&lt;210&gt; 2093

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2093

aataaccata	tctctgtttt	tacaactatg	aagacacata	aactgctatt	cgtcacactg	60
ctgggcactg	tctgcatctc	ctgtggtcat	ccgtctcaca	aaaccggaag	tgagaaggaa	120
gcgctgggca	aactcctttt	tcatgatact	tcaactgtccg	agccaccggg	gcaatcgtgt	180
gccacctgcc	atgcttcttc	caagggattt	gccgatgaac	aagcccggtgc	catatccgaa	240
ggagccgtcc	aaggactcct	ttcccagcgc	aactccatgt	cagtgtgcta	tgcggccttt	300
gtgcccgaat	tgcattatga	cgatgatgac	gaaaactatg	tgggagggtt	gttctgggac	360
ggtcgttctc	cctccttgca	ggatcaggca	ggcattccgc	tcttgaatcc	tgtggaaatg	420
ggaaataggg	acaaacagat	ggtggcggag	aaagtgaagc	ggactccgta	ttatgaccgg	480
atagtgcaga	tatatggaga	gacagaacat	gccgattcct	tgtttgcccc	tgttacggac	540
gcattggccg	cttatcaggc	atccaaggag	atcaatccct	ttacatccaa	gtatgatgcg	600
tataaaaaag	gaaattatca	gctgaccgaa	caggaagcga	gaggcaagga	actgttcaaa	660
gataaggggc	agtgtgccga	atgtcatatc	ctggaccgtg	acaaacgtgc	gcacgcacg	720
ctgtttaccg	atcatactta	tgataatctg	ggcattccga	agttgccgga	tcatacctac	780
tataaggtag	cggcagaata	ttttctgtta	gctgcggatt	cggttgatct	gggactggga	840
gccattgtga	atgccgaaag	cgaaaatggc	aagttccgtg	taccacggtt	gcgaaatgtc	900
gaactgacgg	ctccgtatgg	tcataatggc	tattttaaga	cactcgagga	gattgtacat	960
ttctataacg	tgcgggatgt	gagtgatgaa	tttcctcctg	ccgagtatcc	tgccaccgtg	1020
aacaaggagg	aactgggaaa	cctcggactg	acacaggaag	aagaagccga	tatcgtggca	1080
tttatgaaaa	cactgaccga	cggctatatg	aaagtgcata	aatcggagaa	gcgctag	1137

&lt;210&gt; 2094

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2094

gcatactcca	tacatatcaa	gagaacaaac	agcaagacaa	acaacataac	tcttactaat	60
cacattatga	gaaagcta	attacttggt	gacgataaag	aaactatcgc	taaggtcgca	120
tcaatctatt	taggaaaaga	ttatgatatt	caatatcttc	ccgaccccat	ccacgcactt	180
gaatggctac	atgaaggaaa	aacacccgat	ctgatataat	cggatatacg	catgccgctg	240
atgagagggg	acgaatttct	acattattta	aaatgtaatg	agttgttcaa	agacataccc	300
gtcatcatgc	tttccagtga	agaaaagtacc	agtgaagga	tcaggctgct	gcaagaagga	360
gctgtagatt	atatactgaa	acctttcaac	ccaatggaac	taaaaatacg	tgtcaaaaaa	420
atcatagaat	aa					432

&lt;210&gt; 2095

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2095

aaaaagaatg	tatcaactaa	tttaaaaact	ccaacgaacg	ttatggctat	cgaacgaaag	60
gttccgggtg	aaatacgaat	tttcttgaac	catgtatacg	aattcaagaa	gggagtacgc	120
aacatgggtac	tctatacgat	gaacaaggaa	cacgaagcct	ttgccatacg	ccgtctggaa	180
agacagaata	tcagctacct	gatacaagaa	gtaaacgcca	ataagataaa	tctgttcttt	240
ggtaaggccg	aatgtatgga	tgccatacga	catatcatta	ttcggccttt	aaaccatctc	300
actccggaag	aagattttcat	tctgggtgcc	atgctcggat	acgacatctg	ccaacagtgc	360
aaacgctatt	gcaacaaaaa	agggaatata	aagattgccc	gctga		405

&lt;210&gt; 2096

&lt;211&gt; 966

<213> B.fragilis

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aaacacagca	atatcgtagc	caataacgaa	tatcgctttg	tcacccccga	tttcgggatt	180
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gagtacaaca	tatatcccca	aaccattgcc	acattcctcc	cgggctctat	catcgaactt	360
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ctcctgcgag	gcgaccagct	ctttgaatcg	catacacggc	aaaaccttgt	catgcagggtg	480
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tctttcttct	gcaagttctt	taagcgaatg	acgggaatga	ctccacagga	atatcaaaaa	960
aggtga						966

<211> 237

<213> B.fragilis

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ccgtgcgtgt	gttattatat	tgaaaaagag	gatgtgtacg	agcttgtgga	cggtatcac	120
aggtataagg	tcatgatgac	ctcgccaga	atatacaagc	gggagaacgg	actgttacc	180
gttaccgtta	tccgtaagga	tctggccgag	cgtatgagcc	tctaccatcc	gtcataa	237

<211> 369

<213> B.fragilis

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agaatcaac	tgggaaaactt	ctaccgcagg	atacgttcaa	gagccggagg	taaagccgca	180
gtcattgcc	ctgccacaa	ggtcaccgag	atattctttg	ccatggttgc	aaaccagaca	240
ccttataatc	cggaaaaagt	aggtatagat	gaaaaagtat	tactcgagaa	gcggattacg	300
agatacaaac	gtgaattaga	acgaattaca	gggatgcata	tagaaattgg	caatgcatgt	360
gttccatag						369

<211> 273

<213> B.fragilis

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tttaagcagc	ttctcctcac	tgatattatg	caggccaacc	aaagacttgc	cgccgtcatc	120
ctggctgatc	tccctaaacc	ggatgtcatc	ctgactctca	aggaaagctgc	ccgtattctg	180
gctggcggat	tttatttggg	tggcggcaaa	cgagatataa	tccaccgtgc	ggtcattttc	240
ggaacccata	tgggcactgt	ccgccacatc	tga			273

<210> 2100  
 <211> 3138  
 <212> DNA  
 <213> B.fragilis

<400> 2100

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gaacaaatat	ccgaatatct	tttcacaacc	gaggaacagg	ctgtcatagc	ccgcagtaag	120
gcggaaggca	gttacatgaa	agctccgaac	ggacaggcaa	ccaacctgaa	tgaaaagcag	180
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aacttgcgca	atccttttga	agtggatgcc	caaggggcaa	atctctctc	catagaatac	480
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aaatcgatcc	gtgaaagcgg	gctgcaagtg	tttgtttata	aaccaaggga	tgaatcctcg	2160
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aaatctcttt	tcagcggtta	aggaatagcg	cttcccgacg	gcaggatgct	tatggcgta	3060
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<210> 2101  
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 <212> DNA  
 <213> B.fragilis

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 gtcgcaatgg aatccaccgg tgtttactgg ataccattgt tctgccgact gcaagatgac 180  
 ggactggatg ttgtattaac caacgcaagg gacataaaaa acataacaga gaggaaaacc 240  
 gacgagtcgg atgccgaatg gctgctgttg ctgcaccagt acgggttgct caagacaagt 300  
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 tcccgtgagc ctcaagcgta g 381

<210> 2102  
 <211> 423  
 <212> DNA  
 <213> B.fragilis

<400> 2102  
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<210> 2103  
 <211> 468  
 <212> DNA  
 <213> B.fragilis

<400> 2103  
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 tgcaaaccta gaatgtattc ccgatacaat acttcttata ggcaaggtag cccttatctg 420  
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<210> 2104  
 <211> 255  
 <212> DNA  
 <213> B.fragilis

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 gttgtggatc ctagattgaa tcatattcta tacaataatg taatatatat tgttataaga 180  
 aaaaattttg tgagcgcccc caatgattgg catcgcaaca gcttcaattg tcagccgctt 240  
 gatatcaccg aataa 255

<210> 2105  
 <211> 1611

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2105

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aagacaaaaga	gtatcggcga	atggctgctg	gaggaatata	tcaagctggg	cttcgcaggg	420
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&lt;210&gt; 2106

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2106

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ttttgcgaat	tgtttatctt	aaaaatacat	agaatgtcga	cacatggtag	cctttcggaa	120
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ctcgaaacca	tgaagggtgga	atcggttgat	aatcccatgg	ctctccttat	caccatcgtg	300
aaacataaat	cgttggatta	tctcaaaaaca	caagtacgac	gggaagatac	caaagatgat	360
cttatataat	ggaaacagcg	cgaactagct	atccgaatct	caaacttgga	aggctgtaat	420
cccagttata	ttttctcaca	ggaaatcaaa	tctatcgtaa	tgaaaaccct	caaccaatta	480
tcggaacaaa	ccaaaaagggt	attcattatg	agccgttttg	aaaataaatc	gggaaaggaa	540
attgcccaaa	ctctgggcat	ctcgggtcaaa	ggggtagatt	atcacatgaa	caaggccctt	600
aaagaacttc	gtgctgccct	caaagactac	ctccctatct	taacttggct	ctgttttatg	660
aaccaatca	ataaagggtg	gattttcttaa				690

&lt;210&gt; 2107

&lt;211&gt; 474

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2107

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ggaaaatctc	ccgaacttta	tctggccgta	gggcactttg	tacttagtcc	tgcattgtctg	120

cgggagaata	acaactaccc	ttataaatcc	tcccggatgt	ttacctggca	tgttctctac	180
catgaaggcc	aggtagtggc	tttcatgcct	gttgagagaa	aactcgatgg	tggttataaa	240
attgataatt	attatgccac	tcccgatagg	gagaggggga	accagttgct	gaagctgttg	300
aaaagcgtga	tcaaggagtc	gggcgatgag	acttccccct	tgcgggcgac	cgttcagaaa	360
cgggatgtcg	gaattttcaa	atacatgaat	ttcatcacga	tccgggaaac	caagttatat	420
gttatgatgg	aattggtacg	tatgggttcc	gacagtggga	aacaggatgg	ctga	474

<210> 2108  
 <211> 309  
 <212> DNA  
 <213> B.fragilis

<400> 2108						
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gagaagatta	agggcgtaca	atatgtggta	attggtaaaa	ccaatcgttt	gtccgaaggt	180
gatcacggat	atattgaatt	tggtcttaac	cagggacgta	aatgggatga	taaaaaatac	240
ttgcgtccga	taccgttgac	ggctactcag	ataaatccgg	ctttattgcc	tcaaaaccca	300
ggttggttaa						309

<210> 2109  
 <211> 1272  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (36), (149), (1025), (1084)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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ctgtctgaatg	cctgtgtgga	gcatatcang	caatatggag	gtcggtatgg	agtattccat	180
atggattacg	aagtgcagta	ttccctgacc	acgaagtatg	tggtatgagat	gctgtcttcg	240
aaccggggata	ttctggatgt	ttaccgctgt	tgctgtgcctt	tcaaggtcgg	ttcggtcgca	300
tccatgtacc	agagattctg	gcggccctgg	gacccttgtg	tccgttgggt	cagggagatg	360
cctgtggaat	acctgggtac	ggaagcattt	gatttttata	ctccgcagat	gtgggattac	420
gagttccagg	aatgtttttc	cttttggtct	cgcaagcaac	ttggagtgca	aaaagtggca	480
tgtctgggtg	gaatacgtac	ccaggaaagc	tttaaccgtt	ggagaacgat	ctatcgtagc	540
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ccgttgtatg	actggcatac	tacggatata	tggactgcca	atggccgttt	ccgttgga	660
tacaacaggt	tgtatgacct	ctattatcag	gcggtgttct	ctctgaacag	ccagcgtgtt	720
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aactctgtag	cgatgggatg	gcgggggtgt	aggtgtcctg	agggaatgac	ctggaaaaaa	900
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ctggaggtaa	gcgtgcggtt	ctggcgggag	aagggcggct	gtctggcaaa	agaaacgatc	1020
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cacnaagctc	ctgtcaggat	ggaatacctt	gatgacatag	acctgcctga	attccgtgat	1140
ctgccctctt	acaagcggat	gtgcatctgc	atcctgaaaa	acgaccattg	tgcaaatcat	1200
gggcttttta	cgaacaaaag	cggagaaaag	acgccgacgc	cagacgatgg	ccgagtacga	1260
atcttatttt	aa					1272

<210> 2110  
 <211> 891  
 <212> DNA  
 <213> B.fragilis



<400> 2110  
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 ttaatcagag gcagcgagat tactcgtccg atggctcccg gacactttta tgccattttt 180  
 cttgctgact ccaatccatt ggaacaaaaa gagtataaag acgcttttcaa tgaagccaaa 240  
 aggcagggag catthtatctt ctggaatcat cctggatggg ctgcccagca accggatact 300  
 actaagtggg ggcgcgagca tacagaactc tataatgaag gttgtatgca tggcattgaa 360  
 gtagcaaatg gccctctgta tatgcccga gccattcaat ggtgtttgga taagaatctg 420  
 acaatgattg gtacttctga tattcatcaa cccattcaga ctgattatga tttctctaaa 480  
 gacgagcatc gtaccatgac attcgtcttt gcgaaagaac gttccttgaa aggcattccg 540  
 gaagcattgg agaatcgccg cactgctgct tattatcgag agttgggtgat tggacgtgaa 600  
 gacttgctcc gtccattctt tgaaaaatgt gtagaaatag aagagatcag ccgtaatgag 660  
 aaaggagtga cactctctat aaccaatact acggatttag tcttgaaact gaagaagacg 720  
 gcacatgata cttctctggg ctatttttcg gatatgacgc tgaagccgca tacacgttat 780  
 agtgctccgta tcggatttga taatggcatc aaaggaggag atatgaattt tgaagtgcg 840  
 aattttatag tgactcctga taaaggattg gagtatacta tttctctgta a 891

<210> 2111  
 <211> 357  
 <212> DNA  
 <213> B.fragilis

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 ctgtatgtgg ggggcataacc ctatgacacg aagccgatgc tggatattct ccgcggatcc 180  
 ggagtagatc ccgggaaact ctctcccgcc aggtggatct ctttgctccg ggggcagcct 240  
 acacgcctgc cgggttgtga aaagccgttc atgctgttca aagcccatc cgcatatact 300  
 ctcaagtgcc tggaaataac caggggcagg aacagggctt tccagacgga aatgtag 357

<210> 2112  
 <211> 381  
 <212> DNA  
 <213> B.fragilis

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 gggacccttg tgtccgttgg gtcagggaga tgctgtgga atacctgggt acggaagcat 180  
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 tccgcaagca acttggagtg caaaaagtgg catgtctggt tggaaatcgt acccaggaaa 300  
 gctttaaccg ttggagaacg atctatcgta gcactccggg cccttcagcc gactggatat 360  
 gtctgtcga tgagggcata g 381

<210> 2113  
 <211> 210  
 <212> DNA  
 <213> B.fragilis

<400> 2113  
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 atggataagg atgagttgct gcgtctgaag cagatatcgg gactggcgga gctttttgcg 180  
 gataaggagt tccggatggc cgtagaatag 210

<210> 2114  
 <211> 210  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 2114

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atgaatgcac	aggcgcaacg	ccggaatgaa	attctgggtc	ccgatttaga	tgataacact	120
actttgaagt	gcgatttcca	tatgcacact	gttttctctg	atggctctgg	ttggcctaca	180
gtacgtgtag	atgatgctta	tcgcgaatga				210

&lt;210&gt; 2115

&lt;211&gt; 1320

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2115

aaactaatcg	tcatgcctac	catttttagaa	cgcttgaccg	cattgttcag	ccgggatatg	60
caggccgtac	tcogcaatcc	gcgtgccatc	agtatgattg	agaatccttc	catacgggtc	120
cagatggctg	ccatccggag	ggataaaagt	gtcatctgct	ttatagacaa	gccggtggaa	180
aaagtacagc	tcgctgcagt	caggaatgca	ccacacaata	ttcatttcat	cgcttcgccc	240
ggtgagaagg	tacaactatc	cgtcatccgg	cataaaccgg	gctacatcgg	ttttatttcc	300
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&lt;210&gt; 2116

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2116

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aacagttcta	cagttgatgc	aacatcgcac	cgaacaccaa	gatatcagga	ggaaaaagga	600
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&lt;210&gt; 2117

&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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acagaacaac tggacacaca aaccgcgtac aatgaatata tcatcacagg tctgcgcaca 120  
atgtggggaa tatccacaga agagctgaac agtaagttcg gtgaccgact ttggaaatat 180  
tgttcggaac aagccaaacc ttatctggaa aatgggaaat taaagttgca taacgatcgg 240  
ttaagctaa ccagagaggg cattttcgtc tcagacggta tcatgagcgc cctcttgaa 300  
atagaataa 309

<210> 2118  
<211> 1563  
<212> DNA  
<213> B.fragilis

<400> 2118  
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tccgtaattc ctttcatttt tcctctttat tcacattatt atttattact ttgcgggca 180  
aattatgaaa ccattatttt atataatcac atggcaaatg taataaagtt acgtaaaggc 240  
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caggaatatg tgatggccgg gggacccttg tttatcgaca agaatcatcc tgaagtga 420  
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ctgaacatcg tgggtggaggc tgccgcagag caggattacg aagaattcgg caagaaggac 540  
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aacgtgacga aggacaaaga gttgcgttac atcagcggca atgtgctgac aggcacaa 1140  
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aaggaggcg aacgccacat gattatgtcc ggcaatacgc acaaagtatt cccgatggac 1380  
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taa 1563

<210> 2119  
<211> 1083  
<212> DNA  
<213> B.fragilis

<400> 2119  
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&lt;210&gt; 2120

&lt;211&gt; 1299

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2120

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&lt;210&gt; 2121

&lt;211&gt; 1068

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2121

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<210> 2122  
 <211> 2439  
 <212> DNA  
 <213> B.fragilis

<400> 2122

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caaaatagtt	atacaatggt	aaaattttaat	gcaatgaaga	ctaaaccttt	acgacttctt	240
cggcagaaga	gagcctcctg	gctgaaaagt	gtatttgctc	tgacttgctt	gctactgagc	300
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 <211> 447  
 <212> DNA  
 <213> B.fragilis

<400> 2123

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&lt;210&gt; 2124

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2124

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aaaaaagaga	tagacaaggg	tgtccgattg	atggcccaat	attatgatga	taaaaaaagg	300
aggtaa						306

&lt;210&gt; 2125

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2125

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caaccagaca	atactataaa	actggaagtg	cgaatagaga	atgaaaccgt	ttggttgaca	180
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&lt;210&gt; 2126

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2126

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aggtataaag	atgaagatac	cgggttcaggc	ggcgtaaact	cacttccgaa	acctgagcta	180
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&lt;210&gt; 2127

&lt;211&gt; 183

&lt;212&gt; DNA

<213> B.fragilis

<400> 2127

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acatcgatat	cacaaaacag	gaaccaagca	ttaaggcaga	tatgctgcaa	gaagacgaaa	180
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<210> 2128

<211> 366

<212> DNA

<213> B.fragilis

<400> 2128

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<210> 2129

<211> 1494

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (1467), (1468), (1469), (1470), (1473), (1474), (1476), (1483)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2129

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<210> 2130  
 <211> 996  
 <212> DNA  
 <213> B.fragilis

<400> 2130  
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 gtaccgggca tcggcaatct tggagagatt gagaacaaag gtgtcgaact gatggcttcc 180  
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 gacaactata attgggcgca gttcaactat atggaacaac gtctcgaccg ctggcacgga 660  
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<210> 2131  
 <211> 270  
 <212> DNA  
 <213> B.fragilis

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 ttcgaattgc atctattatc taattgttaa 270

<210> 2132  
 <211> 207  
 <212> DNA  
 <213> B.fragilis

<400> 2132  
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<210> 2133  
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 <212> DNA  
 <213> B.fragilis

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 attaataaaa agcgtacgtt tatctctaaa gtagagaatg atggaggtaa cttgaccctg 240  
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<210> 2134  
 <211> 1122  
 <212> DNA  
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 gccgtgttcc atttcacgtg gaacgagatc caccgcgtgg aaggctatta catgatcatg 180  
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 tcttccccgc aggttgccgc tcctgtccc gccacccata cggcacctgt tgcggaaccc 480  
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 <213> B.fragilis

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<210> 2136  
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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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 tatattgatt gggatgataa agtaagttgt gagcatctgc cggcagacgg tttgtgcatc 180  
 ttggcaaccg tttccagcga ttgtaatatg agtggaaatgc ccgaatgtgt ttgcccagca 240  
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<210> 2138  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 cgtgcggttg cctcttactg gaatgcctct ttggaagaca ttaccggat cgtggacggt 360  
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 <211> 267  
 <212> DNA  
 <213> B.fragilis

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 gaagctgccg aaatggtaaa gcaggaaaaca aaagagaaat gtcaaatagc ctttcgaaat 180  
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 tttgcagata ctatgagtca aatttag 267

<210> 2141  
 <211> 963  
 <212> DNA  
 <213> B.fragilis

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 tga 963

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&lt;210&gt; 2143

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2143

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gccaaagcag	caataaaaaa	agctatagag	taa			333

&lt;210&gt; 2144

&lt;211&gt; 540

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2144

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&lt;210&gt; 2145

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2145

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tgtgaaatca tcctctaa

198

&lt;210&gt; 2146

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2146

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&lt;210&gt; 2147

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2147

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&lt;210&gt; 2148

&lt;211&gt; 1731

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2148

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&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2149

gcaaaaggag	gaacagccgg	catgaaaaag	agatcatttc	ttttgggaag	cctgcttgcc	60
ttcactctgg	gagtatcggc	ccagtcctat	tccttcgcta	ccaacgtcct	gggtctggct	120
acgaccaacc	tgaacctgga	ggcatccatg	accctgggcc	gtaaatggtc	gcttcacctg	180
cccgtgcagt	ataacccgtt	ccgcttcagc	aggaaccggc	agttccgtaa	cctatatgtc	240
gctccgggtg	tacgctactg	gctgctcgag	agctatatgg	ggccatttat	cggcatgcac	300
ggcaccgccc	ggtacatata	gtgtgggcaa	cctcttcggc	agcaggtacc	gctatga	357

&lt;210&gt; 2150

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2150

aggcacatgg	gatatgtatc	gatcaaaccg	ggatattgcc	gttctcagaa	gtacaggaat	60
aagtatatac	gttggtactt	tgaaggagtg	acaccgggac	taagagggtca	gtttgaagcg	120
atgcgaagca	cttcggcgga	agaagtgcgt	gtagccgctc	tgggtgcattg	ccataacgct	180
gttatagata	gatacctggt	aacaatcggg	atgtgcagtg	ccaaagtaca	gcccagaaat	240
acaaagacgg	actattcggc	ttaccactcc	ggaatggatg	acggacggag	tatcagcctg	300
caccggcaaa	taaacggagg	aatgtatga				330

&lt;210&gt; 2151

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2151

agaatgaagg	gcacatactg	gtatgccgtg	gactatgccg	gcacggggca	cctttttacc	60
tacaagcccg	aaagggatgc	ggggatctgg	aacggggagg	aggccctgca	ggtttcccaa	120
ggggcactcc	gggaggtatt	ccccaaagatc	acctggcagg	actcaccctg	agtggtaaca	180
ctggaggtac	taccctgtga	ggagaccttc	cgctgcgcc	tgtcaaagaa	ctgcggttat	240
atcctgagaa	aatatctccg	tttcccccg	gaaggaaaaa	acaaatga		288

&lt;210&gt; 2152

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (8)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2152

aggaaaangg	ggaatgggga	aataaagggg	agggggtgga	agatgggaat	gagatggttt	60
caaggaggtt	ttgggagcaa	attaagttgg	tgggagaagg	ggggggggaa	tgagggagaa	120
gcggaaaaac	ggaagattaa	aatggcctgg	atgtgtgaac	cggtaaccgt	acagaataat	180
atatag						186

<210> 2153  
 <211> 222  
 <212> DNA  
 <213> B.fragilis

<400> 2153  
 gttcaccgga tttatatcag ccctactatt ggtgttcctg atatgaaaaa gaaatcagag 60  
 aagcaaaata tgaatgtgaa aaatatgaat aaaataaaca cagaaaaatc tccggccatt 120  
 acgcttaaca accggagact acacaaacaa aacaaacaat acatagcttt atcttcccag 180  
 accaagctga caaaaacatt aaatattagg atacaaatat ag 222

<210> 2154  
 <211> 417  
 <212> DNA  
 <213> B.fragilis

<400> 2154  
 accgtagacg tatcacgcgg agaatggaga tacaggataa aagacaggaa cccattaaat 60  
 aacagccata tgtatttcat acattacata cagacatacg catcggtgaa ccggaaggga 120  
 agcgagctcc aggaatatgt cctgcagctc aaggacagcc tgataaagga cagggagggtc 180  
 ctggatgacc tgaaagagga actccactgc cggatcgggg agcttgacgc caagtatccg 240  
 cgtacacaac ccctgcattc ggatgcggca agcggcaggg atagcatcca atggatcatc 300  
 cacgtgaaag gcaagccgga taacctgata tgtattattt cgattacgaa agtcagaaac 360  
 ctgctggggag aaggaaccgg tttctttctc ggggaaaaga caggaggtaa agaatga 417

<210> 2155  
 <211> 1296  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (81), (138)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2155  
 ttaaaataca aatgtaaaag aataagtttg aattcatatc ttttagtcag aaaacttttt 60  
 gaagcgatat ttcggttacc ntatagcggt ctctgttttg cttcacatac tcttcgagga 120  
 attcctataa tagcccgncg gtaccacgcc tgcaggttga ccaatggcat tacgctcgaa 180  
 cttgccgtcc ttcatcttac ggatgacacc atcattgtac ttactatga taaattcgcc 240  
 caaacgtttc caagtatcga aagtgttttg cgctgtcatg tcggtatagt tggtcagaaa 300  
 cttcacagcc gtttcgggat tcttctcgta caacttaaca gcaactgctt caataccttc 360  
 ctgtgcctcg ttgaagggtg tttcaagttc gttctgcgta gcacgtacat cgccgatcat 420  
 caaatcgtag cggggatata ccattgttggc caccagttg aaaatccaaa aagcggaggtt 480  
 ccaggagaag gtgatgtaat cggcaccgtc tacacgcgta tagcataccg gagctttggt 540  
 agtacaacaa tatacgggag tgaaaacagt catgttggca tcatccgtac caaaccaaag 600  
 cacaccgcct acagcatcgg gaagattggc acgcatctga gccacaaaaa cgaaaccgct 660  
 ctgttgtgta gagatgggac gctcattgaa atactcctgg tcgcctacct tgaaagtcag 720  
 cggagagagg cggtaagggtg ttttataagg tccggcacca aaatcattgc tgatgtcgag 780  
 ggcggttcct tcataatggt cgcgcatggc attctttaca tcctgaacgg agagtttgcg 840  
 tttcggtctt acgaacagag gcatagggtc attggtcttt ccttggtatg aaggcagata 900  
 ggcttcacct tggtcggtaa acatattgaa gtactccac acacgggctt cacagaaacg 960  
 gcgggacacc aaatcgagcg gtgcataagc atcggcaaaag ctgaagtctt tgttcacacc 1020  
 gctgaaatat cctttttcgc gggcaaaaga aataacgtca ttagaataca tgcagttggc 1080  
 cttgtcagcc atatcgaact gatggatcgc cgaactggtt gcattgtgccc aaatgcagtc 1140  
 gtccggcact cggacagcta cccatacggc tccccggatg ccgggacctt tacctatcat 1200  
 ctccataatc catatttcat tgggatcggc aatggtgaag actcgccatg ctgtaatatc 1260  
 cgtattcctg caccagttca gtgtcttcac cgcgggg 1296

<210> 2156  
 <211> 2292  
 <212> DNA  
 <213> B.fragilis

<400> 2156

aatctacaca	aaggtatgaa	aaataacact	ttgtcggggg	catattaccc	taaaaatccc	60
caaataaaaac	atTTTTTTtag	aattatgaga	attacattgt	tcctattgat	ggcatgtggt	120
TTTTCTTTat	atgccggaaa	ttcctattct	caaaatacaa	gagttagttt	tgccatggat	180
aatgtaggac	tcaataaggt	cctagaggag	atagagagtc	agacggatta	tctTTTTatt	240
tataatagtc	agataaatgt	aaataagcta	gttactatta	aggcaaataa	gcagacgggt	300
tcaaaggtat	tggatcaaat	attacagaac	actgggtattg	aatataaatt	ggaaggctcg	360
catattatat	tagaaaaaaa	agtagaagaa	gttcacaata	gctcgtccgc	cgttcagcaa	420
cagcaaacta	aaaagataac	cggaaaagtt	gtcgataaga	caggagaggc	tattattgga	480
gcgaatgtca	aaatacaagg	tacagataaa	ggaactatta	ctgatctcga	tggtaatTTT	540
atcttgagg	ttgctccaaa	ggatgtgctt	gttatcagtt	acataggcta	tttggtacg	600
aaagttccca	tagctgggca	aaaacagatc	catgtggtgt	tgtctgagga	taataaaatg	660
ttggacgaag	tcgttgtaat	tggttatggt	actacttcta	cacgcaagat	ggcgtctgct	720
gttacagccg	tgaaggtga	gaaactacag	gacttgccat	ttaatagtgt	agcagcttca	780
ctggccggac	gtgcaacagg	tgttattgta	caatcatcag	gtggtgaacc	gggatctgcc	840
ccttctatct	cgatccgtgg	cggtgccgca	cctgtctatg	tcatagatgg	tgttatttcc	900
gatgcttggg	atttcaatac	gttgaatccg	aatgatatac	aaagcctttc	aattctaaag	960
gatgcagcat	ctctggctgt	ttacggttca	cgggctgccca	atggtattgt	gatggtgaaa	1020
accaaacagg	gaggtaaggg	aaagacacgc	gtgaattata	cgtttaatgc	tgaattcagc	1080
caacctacca	aattactgaa	aaagactcgt	ggttatgact	atgcttacia	ccaaatgctt	1140
gccggtatca	atgatggttt	ggacgaggca	gatttacctt	ttaatcagga	agtattggat	1200
atcattaaaa	atcagtcaga	tccttatata	tccggacacg	ccgatacaga	ttggctggga	1260
gaaggattga	aaactgttgc	tcctcaatac	aagcatacgg	tatcattgag	tggaagcggc	1320
aataaggtga	attactatat	ttctctgggt	atgctcaatc	aaggtagtat	ctatacttcg	1380
aatgcactga	actatgaccg	ctatacagtt	cgcagtaatg	ttaacacgac	ttttgataag	1440
attggtctga	aggtcagcct	gaatctgaac	ggagcttatg	aaaaaaagga	ataccctct	1500
ttctcagcgg	caaagatctg	ggaagatctt	tataaccagt	ctccactgaa	tccggcttac	1560
aataaggatg	gtacttatgc	cgcagttacc	gaccatccgt	tggcggaaat	ggacaagcgt	1620
tcgggatata	acaggaacta	tggcaaattc	ataaaatccc	aagtagctgc	ggactggaca	1680
ttgccttgg	taaaggagtt	aaccttgggt	gctatgttca	actatcgtct	gaacgactca	1740
catgtgaaga	aattcagtac	taaggctcct	cagtattacg	cagatggagc	tgtatatcca	1800
ataggtaaac	cgacattgaa	tgaagaaggc	tattggggag	agtcctacia	tttcgaagta	1860
agtgccgctt	atgtgaaaac	ttttgccgaa	aagcatacga	ttgatgctaa	attcgtttat	1920
aatgttgcag	aaaatactgg	atggaatttt	aatgcataat	gtggggaata	cttatctacg	1980
gttgtggacc	agctatttgc	cgggtgcagca	tatacgcagc	agaatggcgg	ctattcggat	2040
gaaagaggac	gtatgggatt	ggtaggcctg	ttgaaatatg	actttatgaa	tcggaatatc	2100
gtggaaggta	gtttccgtta	ctatggatcg	gataacttca	ctccaagaca	tcgttgggga	2160
ttcttccct	ccggagcggga	ggcgtgggcc	atcagtgaa	aacctttctt	taaagagtgg	2220
gaacaacatg	tattcaattt	gctcaaaact	cgcctttctt	tatggacaga	cccgtaacgga	2280
aaatgggagt	aa					2292

<210> 2157  
 <211> 213  
 <212> DNA  
 <213> B.fragilis

<400> 2157

tttgggggaa	aaactgcact	tcaggattta	attaaaaggg	gctttagggt	gcctccggaa	60
actgctttat	cctgggatta	cgggggaaat	tcctttatac	tctgggattg	gaatattggc	120
tttttttcaa	ctaactcgtt	tgtaaaaggt	caccttagaa	atatttctta	ttaccgcaaa	180
cccaaagggtg	gggttaatat	aattccgcgg	tga			213

<210> 2158  
 <211> 1194



&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1159)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2158

cccgcggtga	agacactgaa	ctggtgcagg	aatacggata	ttacagcatg	gcgagtcttc	60
accattgccg	atcccaatga	aatatggatt	atggagatga	taggtaaagg	tcccggcatc	120
cggggagccg	tatgggtagc	tgtccgagtg	cgggacgact	gcatttcggc	acatgccaac	180
cagtcgcgca	tccatcagtt	cgatatggct	gacaaggcca	actgcatgta	ttctaatac	240
gttattttctt	ttgcccgcga	aaaaggatat	ttcagcggtg	tgaacaaaga	cttcagcttt	300
gccgatgctt	atgcaccgct	cgatttcggg	gcccgcggtt	tctgtgaagc	ccgtgtgtgg	360
agctacttca	atatgtttac	cgaccaaggt	gaagcctatc	tgccttatat	ccaaggaaag	420
accaatgacc	ctatgctctt	gttcgtaaa	ccgaaacgca	aactctccgt	tcaggatgta	480
aagaatgcca	tgcgcgacca	ttatgaagga	accgcctcgt	acatcagcaa	tgattttggt	540
gccggacctt	ataaaacacc	ttaccgcctc	tctccgctga	ctttcaagggt	aggcgaccag	600
gagtatttca	atgagcgctc	catctctaca	caacagagcg	gtttcgcttt	tgtggctcag	660
atgcgtgcca	atcttcccga	tgcgttaggc	ggtgtgcttt	ggtttggtac	ggatgatgcc	720
aacatgactg	ttttcactcc	cgtatattgt	tgtactacca	aagctccggt	atgctatac	780
cgtgtagacg	gtgcgatta	catcaccttc	tccctggaact	ccgctttttg	gattttcaac	840
tgggtggcca	acatggtata	tcccgcctac	gatttgatga	tccggcgatgt	acgtgctacg	900
cagaacgaac	ttgaaaccac	cttcaacgag	gcacaggaag	gtattgaagc	agttgctgtt	960
aagttgtacg	agaagaatcc	ggaaacggct	gtgaagtctt	tgaccaacta	taccgacatg	1020
acagcgcaaa	gcactttcga	tacttggaag	cgtttgggcg	aatttatcat	agtgaagtac	1080
aatgatgggtg	tcatccgtaa	gatgaaggac	ggcaagtctg	agcgtaaatg	cattgggtcaa	1140
cctgcaggcg	tggtacgtnc	gggctattat	aggaattcct	cgaagagtat	gtga	1194

&lt;210&gt; 2159

&lt;211&gt; 1761

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2159

aatatagata	gaaccatggg	gaatgaagaa	ctaatacaac	aggtgactga	gaaagccgaa	60
aagtggctga	ccccggcgta	tgatgccgaa	actcaggctg	aagtgaacg	catgctggag	120
aacgaagata	agacagaatt	gatcgaggcc	ttttacaaag	atctcgaatt	tggtacgggc	180
ggactccgtg	ggatcatggg	cgtaggtacc	aatcgtatga	acatctatac	tgtcggagct	240
gctaccacag	gactctctaa	ctatctgaac	gcaaacttta	aagatatgaa	acagatttcg	300
gttgtagtcg	gatacgattg	ccgtaacaac	agttctctgt	ttgccaagat	ctctgcggat	360
attttctcgg	ccaatggcat	taaggatat	ttgttcgaag	agatgcgtcc	cactccggag	420
atgtcttttg	ccatccgtca	tctcggttgc	cagagcggca	ttatcctgac	tgcttcacac	480
aacccgaaag	aatacaacgg	ttataaggct	tattgggacg	acggtgcgca	agtactggct	540
ccgcacgata	agggcattat	cgatgaagtg	aataagattg	cttctgctgc	cgatatcaag	600
ttccaaggta	accggatctt	gattcagatc	atcggagaag	atgtcgataa	gatatactctg	660
gatatgggtga	agactgtttc	tatcgatcct	gaagcgatcg	cccgcataa	agatatgaag	720
attgtataca	ctccgatcca	cggtacaggc	atgatgctga	ttccgcgtgc	actgaagatg	780
tggggattcg	agaacgtata	taccgtgccc	gagcagatga	ttaaggacgg	taacttcccg	840
acagttgtct	ctccgaatcc	ggagaatgcg	gaagctttga	cgatggctct	taatctggct	900
aaagaaattg	atgcccacct	tgtaatggct	tccgaccggg	atgccgaccg	cgtaggtatc	960
gcttgaaga	acgataaagg	cgaatgggta	ttgattaatg	gtaaccagac	ttgtctgatg	1020
tatctttatt	acatcatcac	tcaatataac	aaactgggca	aaatgaccgg	taatgaattt	1080
tgtgtgaaaa	ctatcgttac	taccgaactg	atcaagaaga	ttgccgataa	gaatcacatt	1140
gagatgctcg	attgctacac	cggtttcaaa	tggattgcc	gtgaaattcg	tttgcgtgaa	1200
ggcaagaaga	aatacatcgg	cggtgggtgaa	gaaagctatg	gcttcctggc	tgaggacttt	1260
gttcgtgata	aagacgctgt	ttctgcttgc	tgcttgattg	ccgaagtggc	tgcttgggccc	1320
aaggataacg	gaaagactct	gtatcagttg	ctgatggaca	tctacgttga	atatggattc	1380

tctaaggaat	ttactgtaaa	cgttgtgaaa	ccgggtaaga	gcggtgcgga	agagattaaa	1440
gccatgatgg	agaatttccg	tgctaaccct	ccgaaagagt	tgggtgggtc	gaaagtgggt	1500
ctgtcgaaag	attacaagac	tctgaaacaa	accgacgcag	cgggccatgt	gactgacatc	1560
gatatgccgg	aaccatcgaa	tgtactgcaa	tatttcacag	aagacggtgg	aaaagtatct	1620
gttcgtccgt	caggaacgga	gccgaagatc	aaattctata	tcgaagtga	aggtgagatg	1680
ggatgccgca	actgttttgc	tactgccgat	gcagaagcta	ctgaaaaagt	agaagcagtg	1740
aagaagtcac	tggtatttta	a				1761

&lt;210&gt; 2160

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (54), (111)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2160

aggacggcaa	gttcgagcgt	aatgccattg	gtcaacctgc	aggcgtggta	cgtnccgggt	60
attataggaa	ttcctcgaag	agtatgtgaa	gcaaacagga	gaacgctata	nggtaaccga	120
aatatcgctt	caaaaagttt	tctgactaaa	agatatgaat	tcaaacttat	tcttttacat	180
ttgtatttta	attaa					195

&lt;210&gt; 2161

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2161

gaactatttta	tccaggaaaa	cgacagtgat	cgtttccctg	tactctctcc	tatcattgta	60
gaaacgggaa	aaatcagcac	gcg gatagga	gacattgtcc	gagtggagg	caactgcacaa	120
gtcctcggct	ttttagagaa	tagtcccaaa	agaaatgcc	catccaatga	aggacaaggc	180
attccaataa	tattatggat	acattttatac	gatgctaagt	atccgtcaaa	agagtattta	240
aaatag						246

&lt;210&gt; 2162

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2162

tacattgtca	tggaacaaaga	tttactatat	aattttttata	aaggaaaggt	ttccatagaa	60
gaaggacaaa	gggtcaaggc	ttgggtagaa	gcatcagacg	aaaacgagcg	cgctttctat	120
agggaaacgta	aaatttttga	tgctttgatg	cttaataatc	cgcttccggg	aaagaaaacc	180
tctttttttca	atttttacaca	ttataaaaaa	atagagtggc	tgaaaattgc	catggctgta	240
atattgacat	ttctgcttag	ttattttctat	caggagtata	aagccggtct	ggattcagtg	300
gcaatgagta	cgatttctgt	tcttgaagga	caaagaacca	atgtcacatt	accgatggg	360
agtaatgttt	ggttaaattgc	atgtacaacg	atacaatatc	cgacttcttt	taacagccgg	420
gagcgttttcg	ttataactaaa	aggagaagct	tatttttgatg	tgaaaaagaa	taaaagcaga	480
cogtttatatg	tgcacacaga	tgcttatagc	atcgaagtat	taggtacgaa	gtttaatgtg	540
gatgcataatc	cggaaacaga	aaaatttgaa	actacattga	tgcatggcag	tgtaagggtc	600
actttgaaag	cagattcatc	gcaaacagta	atattaaagc	ctgatcataa	attgtcatta	660
gaaaaaggac	ggtttgtaat	gactaaagtg	gaagattata	atccttatcg	atggaaagaa	720
gggcttatct	gtttctctga	cgaatctttt	octaatatta	tgaaagactt	tgaaaagtat	780
tacggagtga	aaatagtgat	agagaataaa	aatgtattgc	agattaatct	tacgggggaa	840
ttcagacaaa	ccgacggaat	agattatgcg	cttcgtatct	tacaaaaaaa	tatagatttc	900
caatatgaga	aagataatga	aaaacaaatt	atctatataa	aataa		945

<210> 2163  
 <211> 588  
 <212> DNA  
 <213> B.fragilis

<400> 2163

tcctatgtaa	tgcataattaa	gactaatccg	aaagataaaa	tgtcttttaa	tcagctatat	60
aatgattatc	agacacgttt	tttgaatttt	gctaatacct	atgtcagaga	ttgggatgta	120
gcggaagata	taacaacaga	ggcgtaatt	tattattggg	aaaacagaaa	tactttatct	180
gaagtatcca	atattcctgc	atatatactt	accatcataa	aaaacaaaag	tcttaattat	240
cttcgctcatt	tgcagatacg	ggaagaacat	tctgaaaata	ttagaaaata	tattgagtgg	300
gaactcaatg	cacgtatcgt	ttcttttagat	gcttgccaac	cttatgaact	tttagtcaaa	360
gagatgcaag	agctgattca	gcaaactttg	gataaattgc	cggagcgtac	acgcaaaata	420
tttatttttaa	gccgttatga	aaacaaatcg	tataaggaga	ttgctgctct	aatgaatatg	480
acaaccaaag	gtgtagactt	tcatatttgt	aaagctttta	aggcattaca	gattaaccta	540
aaagattatt	ttccattatt	tctttatttt	ttgatgaaat	ttcactag		588

<210> 2164  
 <211> 1890  
 <212> DNA  
 <213> B.fragilis

<400> 2164

gaagatagac	taaaaacaat	ggaagagaac	gaactgatac	ctgtagacaa	caaccctgta	60
gaatatacag	acgacaacat	ccgacacctg	agcgacatgg	aacatgtgcg	caccgcgtcg	120
ggtatgtaca	tcggtaagct	ggcgacgggt	tcgcataccg	aagacggaat	atatgtcctt	180
ctgaaagaag	ttattgacaa	cagtatcgac	gagttcaaaa	tgcaatccgg	caagaagatc	240
gaaatcagag	tggaagagaa	tcttcgtgtc	agtgtacgcg	actacggccg	cggtatccca	300
cagggaaaac	taatagaggc	agtcagtgtg	ctgaacaccg	gtggtaagta	tgacagcaag	360
gctttcaaga	aaagtgtcgg	actgaacggg	gtcggcgtga	aagctgtcaa	tgctttgagc	420
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aatctggtta	tagaagaaga	catcgcataa				1890

<210> 2165  
 <211> 483  
 <212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2165

tctgggttata	gaagaagaca	tgcataaac	atgagaagag	ctatctttcc	gggaacgttc	60
gaccgcgttta	ccatcggaca	ctactccgta	gttcaacgca	ccctgacatt	catggacgaa	120
gtgggtcatcg	gtatcgggtat	caacgaaaac	aagaatacat	actttccgat	cgagaaacgt	180
gtggaaatga	ttcgtaaagt	ctataaagac	gaaccccgga	tcaaggtcga	atcttacgat	240
tgcctgacga	tgcactttgc	ccgtcaggta	gatgcccaat	tcatcgttcg	cggtatccgt	300
accgtgaaag	acttcgaata	cgaagaaaca	attgccgata	tcaaccggaa	actggccggc	360
attgaaacca	ttctgttatt	taccgaaccg	gaattgacct	gtgtcagctc	taccatcgtc	420
cgcgaactgc	ttggctataa	taaggatatc	agtatgttca	ttcccaaagg	gatggaaatg	480
taa						483

&lt;210&gt; 2166

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2166

cataacacca	gaataacttc	ttcgcgtccgt	gtgatgggtgc	gtttggcaaa	aaataatccg	60
aaaaaccaga	gcagaatgcc	cgaaccgacc	aaggtgaaaa	ggtcgaagtt	attgatgcct	120
gtcagccgca	agggagtgat	ggaagcactg	catcccaata	caaagaagat	gttgaacaga	180
ttactgccga	tcacattacc	gatggctatt	tccggattct	ttttcaaggc	agccactatc	240
gatgtagcaa	gttccggtag	ggaggtagct	cgggctacca	gtgtgagtc	gataacagat	300
tgcctgacgc	caaggtgccg	tgcgatgttg	cttgctccct	ctacaaacca	ttgtcccccg	360
aaaataagtc	cggccaatcc	gcccagaatg	aaaagtacgg	atttccacat	cgaggaggctt	420
ttgatttcct	cttccgggtg	a				441

&lt;210&gt; 2167

&lt;211&gt; 1146

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2167

atacaagcta	tggccattac	aattaaagag	gtatcgacaa	aaagagaact	taaaaaattc	60
attcgtttta	attacgaatt	atacaaagag	aatccttatt	ccgtacctga	cctctacgac	120
gacatgctga	atacattcaa	taagaagaaa	aatgcggcat	tcgagttctg	tgaggccgag	180
tacttttctgg	cttataaaga	cggaaaaatc	gtagggcgca	tcgcagggtat	tatcaatcac	240
cgtgccaatg	ccacttgga	caaaaaagat	gtccggttctg	gttggatcga	cttcatcgac	300
gaccttgaag	tatcttccag	acttctgcaa	accgtagaag	aatggggtaa	atccaaaggg	360
atggagaaca	ttcagggacc	tcttggattt	accgacttcg	acgcagaagg	tatgctgatc	420
gaaggattcg	accaactcag	taccatggca	accatctaca	atcatcccta	ctatccgcaa	480
cacatggaga	aactgggatt	tgagaaagat	gccgactggg	tggaatacaa	aattttatatt	540
cctgacgcca	tccctgagaa	acaccagcgc	atatccgatc	ttattcagcg	taaataataac	600
ctcaagataa	agaaatatac	ctcatccaga	aagattgcag	ccgattacgg	acaagccatc	660
tttgagttga	tgaacgaagc	ttatagtcgg	ctgtacggat	actctccgct	ttcgcaacgg	720
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ttagggtttta	tctttgcaga	aagcaacccc	gaactggaaa	tgaacggaaa	ggttcaggca	1080
caatgggaat	acttttaaac	cgaacaacat	aaacgtcgtc	gtgcgtttac	taagaagata	1140
gactaa						1146

&lt;210&gt; 2168

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2168

tttaaaggtg	tagacatgga	tatattactg	cttattggag	gattactcct	catttttgata	60
ggtgccaact	gcctgacaga	tgggtgctgc	tcogtagcca	agcgattccg	tattccttcc	120
atcgtaatcg	gcctgactat	cgtagctttc	ggaacttccg	ccccggaact	gaccgtagc	180
gtatcgccg	ccctgaaagg	tagcgcggac	atcgccgtag	gtaacgtagt	gggaagtaat	240
atcttcaata	cattgatgat	cgtcgggtgc	accgctctat	ttgctcctat	cgtaattacc	300
cggaataactt	tgcggaaaga	gattccgcta	tgcattctct	cctccatcgt	cctgctgata	360
tgcgccaatg	acgtttttct	gaataaagct	tcagcaaca	tactaagcat	ctcggacgga	420
ctgattctgc	tctgtttctt	caccatcttc	ctgggctaca	catttgccat	agcctcacc	480
acaaacaata	ctcaaccgga	agaggaaatc	aaaagcctcc	cgatgtggaa	atccgtactt	540
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agcaacatcg	cacggcacct	tggcgctcgc	gaatctgtta	tcggactcac	actggtagcc	660
ggaggtacct	ccctaccgga	acttgctaca	tcgatagtgg	ctgccttgaa	aaagaatccg	720
gaaatagcca	tcggtaatgt	gatcggcagt	aatctgttca	acatcttctt	tgtattggga	780
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ttggtcgggt	cgggcattct	gctctgggtt	ttcggattat	tttttgccaa	acgcaccatc	900
acacggatcg	aaggaagtat	tctggtgtta	tgctatatag	cctacaccac	ctatctgata	960
tatcagattt	ga					972

&lt;210&gt; 2169

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (795)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2169

acccatgtga	tcataaaaag	aataatatac	ctgcttatcg	gtttgtgttc	cgttttggga	60
ctacaggcac	agaacttttg	ctcacccgcc	atgcgaaaat	tacaactggc	agagttcgcc	120
atctctaatt	tatatgtaga	tacgggtcaat	gaaaacaaac	tgggtgaatc	ggccatcata	180
gaaatgctgg	cacagctcga	cctcattcc	acctattcgg	atgccgaaga	ggtgaagaaa	240
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gatacgttgc	tcacgttaca	accggtgagt	aatggcccg	ccgaaaagg	aggtatcctg	360
gcaggagacc	gtatcatcgc	ggtgaatgac	acagccatag	caggcgtaaa	aatgggaaca	420
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agcctggatg	ctgcttatat	gattcagcct	aaaataggat	acatccgtat	caaccgtttt	600
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gaacaaaagga	atggtgggta	g				921

&lt;210&gt; 2170

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2170

agtaaaagaa	caattaatgt	aaagttaaac	tttaagagag	aatttatgaa	aagaaaatta	60
atgctgttat	tgaacttgct	ttttatgggt	ataggtctag	taactgcca	aactcagaag	120
gtaacagggtg	ttgttatatt	tgaagaagac	gggcaaccag	ttgttgagc	ctctgtattg	180
gctaaaggca	ccactgtagg	tgattattact	gatgtagatg	gtaaatctac	attatctggt	240
ataccaagtt	ctgcaaagac	tttgcagatt	tcatatattg	gtatgcagac	cgctgaggta	300

gcaattgcac	ctaattattag	agtaatatatta	aaaacagact	caaaagcact	tgacgaggtt	360
gtggtagttg	cttacggaac	acaaagtgtc	cgtacgggtga	ccgcatctgt	atctactgta	420
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gcgtcaggtg	ttagtatcac	cactccgtca	gcagggtgtag	ggcaggcccc	gattgtgctg	540
gtacgtgggtg	tgaactcgat	tacttccggt	acttctctct	tgtatgttgt	cgatgtcttc	600
accgggggtg	caatgattgc	tcgtggg				627

&lt;210&gt; 2171

&lt;211&gt; 1197

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2171

ttaaaaataa	aggaaatgga	taaaattatt	tacagtttgg	tgtataatag	gaaaaagagc	60
ctgaataaaa	agggtagtgc	attagtagac	gttgaggcct	atttaaagag	aaaaaagaaa	120
tatttctcta	ccaaagttaa	cttgagtccc	gatcaatggg	attttaagaa	gagaatgggt	180
aagaaccatc	ctaattgcaga	tgtatcaaat	cacatgcttt	acgagtttat	ggcagaaata	240
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gcaaaatctt	cattgaagga	aagtacaaaa	cgcaatcatc	tctcaacatt	agaattatta	420
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gatcactatc	ttcagcaaaa	aggatatcat	actaatacaa	ttgcgaaaca	catgaaacat	540
ctaaagcgtc	atattaatgt	agccataaat	aaagaatata	tggagatata	gaaatatgcc	600
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&lt;210&gt; 2172

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2172

aaacttaaac	cgatgaaaaa	gaatctttat	tggatggcag	cagcattcat	cactttaact	60
gctgtaggtt	gtacaaatgc	gaagaaagcc	gatgtatctg	cgccaggcag	cgataccaca	120
caagtgatag	atatgcatac	tgccgaaacc	tctctcgatt	actatggagt	ttacaaagggt	180
acggttccgg	ctgccgattg	tccgggcata	gaactgaccc	tgacattgaa	gaaggatcgc	240
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actttggccg	atgcctatgt	attaaagcag	gaagagggtg	tcctcgattg	a	471

&lt;210&gt; 2173

&lt;211&gt; 2217

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2173

acacacttca	caaaaaata	tgcttgtatg	cagagagcca	aaaagaatta	tcttattttat	60
gcggttatgt	tgctcctttt	cggggcgctt	atttaccatg	ctatcgagga	gggagatcgt	120
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gctgtcctgc	tgatggtaag	gcttttcggc	tttctgttca	agcacatcgg	gcagcccg	300
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ccagatgtgt	ttcaagccct	ttccctccc	gaatctctta	ccaatctgga	gttgcctgagc	420
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ctcggcatcg	tggcatccta	ttggatttat	gaagagtatg	cggctgcca	gaccgccttt	600
ctgccgtttg	ccctcttcat	cggatatctca	atgagtataa	cgccttttcc	ggtgttggca	660
cgcacatttc	aggaacggaa	tatgacaaag	acttcttttg	gaactttggc	cattgcttcg	720
gctgccaatg	atgacgttac	tgcctgggtg	ctgctggctg	tagtcatcgc	catagccaag	780
gcggaacgt	ttgccagtgc	cctttacgcc	atcgggctga	cggctcttta	tatcattatc	840
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gaggtgttcc	gcgatttgcc	ttcactgttg	gtcatccgga	ggcctaagaa	gggttga	2217

&lt;210&gt; 2174

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2174

aatgagggca	ctacagccgc	cggatgaagc	gccaatctgg	aacagaccgc	cctgcaacag	60
caaagtctga	acgagcagat	gttgcctgga	ctaaccggg	cggccaataa	tcttgatgag	120
gcgaaactag	aaagcgagct	tgcgcaccgt	tctctccaac	aggccgagga	aaacaggcgt	180
gtcagcaaaa	accaatatga	agtgggattg	gaaacccttt	ccgaccatct	ggaaggacaa	240
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tatgtggctt	atttgaaagc	ggcagggtata	ttatataata	agattaattt	ataa	354

&lt;210&gt; 2175

&lt;211&gt; 546

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2175

tatgacatgg	caaaaatata	aattaaatct	gagaaactca	caccttttgg	aggaattttt	60
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agatgcagca	gtatcttcgg	atatcagttc	agcgagatag	tccgttcgct	gatgagcgtt	180
tatttctgtg	gcggctcatg	cgtggaagat	gtaacgtcac	aactgatgcg	ccatctctcg	240
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acacaggaaa	acatctccta	tacttccgac	caaggcaaga	cctatgattt	caatactgca	360

gacaaaactca	acacattgct	tataaacgct	ttggtttcta	caggcgagtt	gaaggaaatt	420
gaggaatac	atgttgactt	tgaccatcag	ttccttgaaa	cggagaagta	tgatgcaaaa	480
ccgacctaca	aaaagttcct	cggctacagg	cctggcgat	atgttatcgg	tgacaagata	540
gtttat						546

&lt;210&gt; 2176

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2176

gttcctgagc	aacaaaaagt	tgcccaggat	tttgccatgt	cagaattttc	acttatctta	60
gtgttgcaaa	aagaaaacaa	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
ctgagaaact	cacacctttt	ggaggaat	tttcaatcat	ggagaaat	gactccatgc	180
tttcacccgt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

&lt;210&gt; 2177

&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2177

cgattaaaaa	aacagaataa	aagaatgact	ggaatagaaa	aaacagtaac	gaataggtcg	60
ggggccggag	ctttggtgct	ctgtaccata	cttttttgct	tgtgcgcctg	tacggaagat	120
gcttcctata	cggcaggagt	ctggtaccgc	cgttcggact	tcgacggggg	ggcacgtacc	180
gatgctgccg	gtttcacgat	tggcaacaaa	ggatatact	gtggagggtta	caacgggaaa	240
acaacccgtc	tggccgatac	ctgggagtat	gacatcgaca	atgactgggtg	gacgcaacgt	300
gccgatatgc	cgggtacggt	tccgaatgcc	gctacagggt	tcccgggtggg	gaataaagg	360
tacatcacta	cgggttacaa	tcccgatcag	aagtatctgg	ccgatacgtg	ggagtacgat	420
cgggagacaa	atacctggcg	gcaaatggat	gacttcaaag	ggggagcccg	ttattatgcc	480
cttgggtttg	gcattgataa	ttatggctat	gtagggtaccg	gttacaatga	taactat	540
aaggactttt	atcgattcga	tctactgcg	gcagccgggt	cgcaatggac	tatcgtgaat	600
ggtttcgggtg	gacaaaagcg	tcagggagcc	acagcctttg	tgatcaatgg	aaaagcctat	660
gtctgtggag	gacagaacaa	caattccgat	gtgtcggact	tttggcggtt	cgatccttct	720
cccggccacgc	cgtggacaca	attgagagat	attgccaaata	ccagcgacga	tgattatgat	780
gacgattata	cttctattgt	cggttcttac	ggagtcagtt	ttgtgatcga	tggaaaagcg	840
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cctgaaaccg	atctttggga	aggagacgac	ctgacagcgt	ttgaaggcag	tacacgcac	960
catgctgtct	gtttttctac	cggaaaccgg	gggacatttg	cgacaggcgg	cagtggatcg	1020
agttcatact	ttgatgacac	ttgggagttg	aagccttatg	aatatgaaga	agaataa	1077

&lt;210&gt; 2178

&lt;211&gt; 1209

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2178

cccataaaaa	gaaacctgat	tctattgctt	actctttgcc	actccacttt	attaatatat	60
agtcacaaata	ccaccaactc	cccgaacttc	atgttcggac	tgggcgaact	ctccaccgga	120
gaaggcggac	aatactccgg	actgggtgga	gcaggaattg	ccttgcaaaag	ctacaacttc	180
ctgaatacag	ccaatccggc	ctcacttacc	gccatcgagg	gacaacgttt	cctgatagac	240
gccggagtaa	tgggagctta	caaggtatat	acacaaaccg	ggacgagcaa	tactcgtctg	300
gtaggtaacc	tgaacaacct	gagcatcggt	tgcgcgatca	ctccacgctg	gtatggagcc	360
gtgttcatgg	caccggtcag	tagtgtaggc	tatgccatca	caactggatca	ggacatcacg	420
ggaaccggca	gttccaccgt	atcgtcactc	ttcgaaggcg	aaggcggatt	gtctaaaatg	480
ggaatcagta	cagcctatcg	gcttttcaag	ggattttctg	tcggcgctaa	cctttcctac	540
gtaaccggga	ccatcaaaca	gacagaaacc	cagggaagta	tcaatgtgga	agaaagctca	600
tacaagcatg	ccttttatgc	tgacttcggc	ttgcaataca	aattttcact	gagccggaat	660



aagtacctcg	tggcaggagc	tgtatacggg	tattcgcaag	acctggcaca	agacaatacc	720
ttgtcggtaa	gcagcacatc	gggcaacgaa	tcgattgacg	aaagccaacg	ccatgtgcgc	780
caatgcctcc	cccagtttgt	gggagcggga	cttgcataca	acagtccgca	ctggacgctg	840
acagttgaat	ataaatatac	ggattggagt	cgtatgaagt	catcaciaag	caacgtccgc	900
ttcgagaacc	aacaccgatt	gtcggcaggc	acagcctata	cggcaggcaa	tatttaccgg	960
aatccggtga	aactgttact	cggagcgggc	gtcagcaact	cttatatagt	cattcagaag	1020
aagaaagcaa	ccaactacta	tgtcagtgcg	ggaagcaact	tcactctgta	caacggcaac	1080
gttctctccc	tgggagtgaa	atacagcgac	cagcttcac	tgcccaacgg	catgcaacgg	1140
gaacggggag	tcacactctt	tttcaatttt	accttttcgg	aacggaccta	ccgggcgaag	1200
atccaataa						1209

&lt;210&gt; 2179

&lt;211&gt; 1401

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2179

atcgttccga	ttagtcgac	ctttttttac	agggaaaata	aatcgtcttc	ttttgcggca	60
aaaatgatcc	gattcatgaa	acgaaaaaac	ttatccttgt	tttttatcac	tctttttata	120
tcactcctcg	cctcttctcg	tgacgaactg	tcgacggcgg	gaggcaaatg	ggtggaaagc	180
tccctgcgaa	ccatacaaac	cgatacctgt	accgtacgcc	tcagcactat	cctgagtgac	240
tctcttgcca	catcgggtga	cactgtctgc	cagataggaa	ccattgacga	tcccgtctgg	300
ggaaagatag	aggcagcttt	ctatgtcgaa	tatgacgtac	cgacagtttc	attcagtga	360
aatgcccagt	acagattcga	ctccattacc	atccggttct	attcatcggg	taactatctg	420
ggagataccc	taagtccgca	acgtatctca	ctgcacagtc	tatcggagaa	tctgtcattg	480
gacgaagggt	atctgtacac	tacttcgaag	gtgtcctatc	actccactcc	cctggcttcc	540
tttactttca	ccccacccc	gggcgaaaca	atccgggaac	atgaaatccg	cctccccgac	600
gaatggggag	tcgagtgggt	cgaacatttt	caggccgggt	cacgtgagat	ggagtgcgaa	660
gagtaacttc	gcgactatct	caaaggatc	gcgtttatcc	cgaagaagg	gggaaattgt	720
gtcaacgggt	ttatgggtga	cgactcaagc	ttatgcatca	ctctctatta	tcacagacg	780
gaaacgggat	ccacgggaact	gtccgccgat	tttttaccga	acagcgatct	gaggttcaac	840
caggtcagtt	gtgaccgcag	cgggaccgca	ctctcctctt	tgcaaagtgg	actcaacaac	900
gggcttcctt	cagaaaaatc	ggagcaccag	tcctatctgc	aagggttgac	cggcatgtat	960
atcaatattg	attttccatt	tctcaatgac	ctgcgtgccg	aaggcaggct	ggtgaccatc	1020
gaaagcgccc	tgctccggct	atatccggta	aaagggaact	atggcaaaca	gtatcccctt	1080
cccgaatcgc	tgacactgta	tacagccgat	gaaaacaatg	tgacggaaga	tgtagtgact	1140
gatatttcag	gcagttccgt	acaaaccgga	agcctgggtg	cagatgaaat	gatgggagaa	1200
gatacctatt	actctttcga	tatcacctct	ttcctgcaaa	gcaatctggg	aacggtagga	1260
tacaaccgga	agattcttca	actgatgctc	cgggacaact	tattcttcac	tacctgaac	1320
ggagtgcgtat	tcggggatgc	cggacatccg	gacagcaatc	ccgtgaaact	aacctactt	1380
tataaaacat	ataaccatg	a				1401

&lt;210&gt; 2180

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (27), (44), (46), (159)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2180

ggccgcgcgc	cgaggcccat	cgctgcntgc	accatgggag	agananctgt	ggacgaggaa	60
gtaccgcgtac	ttttcgagta	tcctttaatg	aacgatgtca	tgccgattgt	aaaggaggag	120
gaaccggaga	ttctgtctca	gtcgtatgat	atggatgcna	gcatgacgct	tcgtatccgg	180
cagtcggcaa	tgccccgttt	aaggtcccgg	ctggagaaag	tgagagactgc	ccgcattaca	240
gatgaacagg	aaggaaatgg	atag				264

<210> 2181  
 <211> 1260  
 <212> DNA  
 <213> B.fragilis

<400> 2181  
 tctgcagttc ttatggcaac aataaaacca tttaaaggca tccgtcctcc gcaggacttg 60  
 gtagaacagg tcgcttcacg tccgtatgac gtgctgaatt cagaagaggc tcgtgcagaa 120  
 gctgccggga acgataaatc attgtaccac atcattaaac cggaaataga ctttcccgtc 180  
 gggacagatg aacatgatga gaagggtgat gcgaaagcgg cagagaattt ccgtctgttc 240  
 cgtgataaag gatggctggt gcaggatgac aaagagaatt attatatcta tgcccagacc 300  
 atgaatggca agacacagta tgggctggtg gtgggtgctt acgtgcccgga ttatatgaac 360  
 ggtgtcatca aaaagcacga actcaccggc cgtgacaagg aagaagaccg catgaagcat 420  
 gtccgtgtga acaatgccaa catcgaaccg gtgttctttg cttatcccgga caatgcggtg 480  
 ctcgatgcca ttatccgcaa gtatacggct caaaagccgg tatacgattt tattgctccc 540  
 ggtgacggat tcggacacac tttctgggtg atcgacaaca gcgaagacat tgctgtcatc 600  
 accaaggagt ttgctgccat gccggcgctt tatatcgccg acgggcatca tcgttcggct 660  
 gccgtgccc tggtaggggc cgaaaaggca aagcagaatc ctaatcatcg cggagacgaa 720  
 gaatacaact atttcatggc cgtatgtttc ccgcgaacc agttgactat tatcgattac 780  
 aaccgggtgg tgaaagatct caatggcttg acgctgccc aatttctgac cgcccttgga 840  
 aagaattttg agatcgaa gaagggtaaa gagatttata aacccaatgc gttgcataac 900  
 tttgcgctct atctggatgg caaatgggat agcctgacag ccaaaccggg tacttatgac 960  
 gataatgata ctataggtgt attggatgtg accatctctt ccaacctgat tctggacgaa 1020  
 attctgggaa tcaaggatct gcgttcggat cgccggattg actttgtagg gggaatccgc 1080  
 ggcttgggag aattgagcag acgggttgac agcggcgaaa tgaaagtggc tttggccctt 1140  
 tatectgttt caatgaagca attgatggat attgccgata caggaaacat tatgcctccg 1200  
 aagactacct ggttcgaacc taaactgcgt tcggggctgg tgatacacga gctcgaataa 1260

<210> 2182  
 <211> 636  
 <212> DNA  
 <213> B.fragilis

<400> 2182  
 aatatgagcc aattattttc taaaaagaat aaagaagtat tcgctactcc actgggattg 60  
 aataaccggg taaccgtgca ggtgctcggg atctgttcgg cactggctgt aacggccaaa 120  
 ctggaaccgg ctatcgtgat gggctcttcg gtaactgtga ttacggcttt ctcaaacgtc 180  
 gttatctctt tgctgcgtaa gacgattcct aaccgtatcc gtatcatcgt acagttggtg 240  
 gtagtagccg cattggtaac tatagtaagt gaggtgctga aagcgtttgc atacgatgta 300  
 agcgtacagc tttcgggtata cgtaggctctg atcattacaa actgtatcct gatgggacgc 360  
 ctggaagcgt ttgccatggc aaacgggtccg tgggagtcac tcctcgacgg tgtaggtaat 420  
 ggtctgggat atgccaagat cctgatcatc gtggctttct tccgcgagtt gctcgatcg 480  
 ggcacattgc tcaacttccg tattatccct gagtcattct ataagatggg ttacatcaac 540  
 aatggtttga tgttgatgcc gccgatggca ctgatcatct gtgcatgtat catctggtat 600  
 cagcgcagcc gctgcaaaga actccaggaa aagtaa 636

<210> 2183  
 <211> 495  
 <212> DNA  
 <213> B.fragilis

<400> 2183  
 tttgtggcga attcgttttg tgttccggac tattcaaata tgtacgtttt tccgtatctt 60  
 tgccgccgaa gtaattatta tcaggaaaca gatatgggac gaaaagaaga atacaaattg 120  
 cagaacgaac aattcatgca gacattacgc accgaagcgg atgtacacga attgccatgc 180  
 ggcataattat ataagggtttt ggagggaagg accggcgag ccacgcccgc ttccaacagt 240  
 gtgggtgtcgg ttcattacaa gggcactctt atcaatggac gtgaatttga taattcctgg 300  
 aagcgggaact gtcccgaagc ttttcgtctg aacgagggtta tcgaaggatg gcagattgct 360  
 ctgcaaaaaga tgcgggtggg agatcactgg atcgtctaca tcccttataa tatgggctat 420

ggcacacgta ccagtgggccc gattccggct ttttcaactt tgatttttcca ggtacaatta 480  
ctgggtatag cttga 495

<210> 2184  
<211> 1290  
<212> DNA  
<213> B.fragilis

<400> 2184  
agtaaaaaga ataaaaacaat gacgtcttta atattagcaa gtatcggagt cttccttctg 60  
gtgatcatcc tgcttgtcat tatactgctc gttgcgaaga gctatctttc tccttcgggc 120  
gaggttacga ttacgatgaa tggagagcaa caactgaaaa catctcaggg tggtaactctg 180  
ctgggtacgt tgtctgccaa caatgtgttc ctttcacggt cttgtggtgg taaggggttca 240  
tgccggacagt gccgttgcca ggtgctcgaa ggccgtggcg agattttgcc taccgaaacc 300  
ggtttcttct ctgtaaaaga acaggccgat cactggcgcc tcggatgcca ggtgaagggtg 360  
aaacaggata tgtctatcaa gatcgacgag tctatcctgg gtgtgaaaga gtgggagtg 420  
gaggtgatct cgaacaagaa cgtggctacg tttatcaaag agtttatcgt ggctctgcct 480  
ccgggcgaac acatggactt tgtgccgggt tcgtatgcc agatcaagat tcctaccttc 540  
tcgatggatt atgataagga catcgataag agcctgatcg gtgacgaata tcttcggca 600  
tgggagaaat tcggtctgct cggcctgaag tgccgcaacg acgaaccgac catccgtgct 660  
tattctatgg ccaactatcc ggctgagggt gaccgcatca tgctgactgt acgtatcgt 720  
actcctcctt tcaaaccgaa agatcaggga ccgggcttta tggatgtgat gccgggtatc 780  
gcttcttctt acatctttac gctgaagccg ggtgacaagg tgacctgag tggaccttac 840  
ggtgacttcc acccgattct ggattcgaag aacgaaatga tgtggatcgg tgggtggtgca 900  
ggtatggctc cgttgcgtgc ccagattatg cacttgacca agacgctgca tatcactgac 960  
cgtacgatga actacttcta cggtgcccg gactgaacg aggtgttcta tctggaagac 1020  
ttcctgcaga ttgagaaaga cttcccgaaac ttcaagttcc acctggcact cgaccgtccg 1080  
gaccctgctg cagacgcagc cgggtgtgaag tatacggcag gtttcgtaca caacgtgatt 1140  
tacgaaactt atctgaagaa ccatgaagct ccggaagaca tcgaatacta catgtgtggt 1200  
ccgggccgga tgagtaaagc tgtcgagaag atgctcgacg atctcggtgt tccgtctaag 1260  
aacttgatgt tcgataactt cgggtggataa 1290

<210> 2185  
<211> 456  
<212> DNA  
<213> B.fragilis

<400> 2185  
aaaaagatag atagaatggc atttgaagca acaaaaagag agtggagcga gttgtacgtc 60  
tttttccgtc tgctggcgga tggaaaagta tcgcttgga ctccgcaggc aaagaaagaa 120  
gatgaaaagt accggcccat tgcaatgatc cagcgtgaag agcatgatgg caccggcgt 180  
tactatattg aagaagaggt catccggatg gaaggtgaga aggtggagaa aagtattccc 240  
cgtgaggact ttgcaacagt ggccgacctg attctggacg cgattaaaaa ttcttcggcg 300  
gatgaagtta cgtcaccgca cggggtggag gagttcctgg acgaggcagg tatctttgat 360  
ctggaagccc ggacggagga ccgtaccgac ttctcgattg ctttctggca tctgaggct 420  
ccgttggcgg gttgtcttcg ccacgggcca ggggag 456

<210> 2186  
<211> 1416  
<212> DNA  
<213> B.fragilis

<400> 2186  
tccttcggag atcatcataa aagaaactgc tttcgggttg tccggaagca gttttttttt 60  
atcttttgtt cattattcaa aaatgtggaa aaaacaatga atggtttgaa ggatatactc 120  
gaaaggttga aaatagaaca actcaatccg atgcaggaag cgtctgttga ggcatttgat 180  
aaaggtggcg aagatttgat attactttcg ccacagggtt cgggcaagac cctggccttt 240  
ctgttgccgc tggtcggcag tctgaaggcc gacgtgaaag gactgcaggc cgtgggtgctg 300  
gtgccatcac gtgagttggc attgcagata gagcaagtgt tcaaggcgat ggggacggaa 360

ttcaaggcga	tgagttgcta	tggcggacgt	ccggcgatgg	aagagcaccg	tacgatgaaa	420
ggaatgcagc	cggcggttat	catcggtacg	cccgccgta	tgaatgacca	tctctccaag	480
cagaacttcg	atgcaagcac	agtgagtctg	ttggtgatcg	atgaatttga	taaatagctg	540
gagtttgggt	ttcaggaaga	gatggcaacg	gttatcggac	agttgcccga	cttgaaacgg	600
cgttttctga	cttcggcaac	agatgcggaa	gagattccgc	aatttacagg	actgaaccgt	660
acgataaagc	ttgatttctt	gacaaacgat	gtggaggaat	cacgttttgc	gttgatgaag	720
gtggtttcgc	ctgctaaaga	taagatagaa	accctctata	agctgctttg	cacactggga	780
agcagttcga	gcattgtttt	ctgtaaccac	agggatgcgg	tggaccgtgt	gagtgcctta	840
ctaaccgaaa	aaggagtttc	caatgaacgc	tttcatggag	gtatggagca	accggatcgg	900
gaacgggcac	tgtataagtt	ccgtaatggc	agctgtccgg	tgctgggtgc	tacggacctg	960
gctgcccgcg	gacttgatat	cccggagggt	gagcatatca	tccattatca	tttgccggtg	1020
aacgaagaag	cctttaccca	ccgcaatggc	cgtactgcc	gttgggatgc	gacgggtact	1080
tcttatctga	tactgaatcc	ggaggaacat	gtgccggatt	atataccttc	ggagcttgag	1140
atcttcgact	tgccggagaa	tacaccccg	ccggctaaac	ctcagtgggt	gactatttat	1200
ataggtaaag	ggaagaagga	caaattgagc	aagatcgaca	tagccgggtt	cctttataaa	1260
aaaggaaatc	tggcacgtga	ggatgtcggg	gcaatcgacg	tgaagatca	ttatgccttt	1320
gttgccgtgc	ggcgcccaa	gatgaagcaa	ttgctgactc	tgatccgtgg	cgagaagatc	1380
aaagggatga	aaacggtgat	cgaggaggcg	gattaa			1416

&lt;210&gt; 2187

&lt;211&gt; 552

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (421), (422), (491), (508), (510)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2187

tatgggctat	ggcacacgta	ccagtggccc	gattccggct	ttttcaactt	tgatttttga	60
ggtacaatta	ctgggtatag	cttgaaccat	caaaaaaaga	ttccggatat	catgacagaa	120
gatacctata	agaccatcac	tgaagtctcg	gagggaaacat	ataccgagaa	acgaagcaaa	180
tttattgcca	tgcctctccc	ggttcgtacc	ttggaagaga	ttaaagtgcg	tctggaggcg	240
taccagaaga	aatactatga	tgcccgcac	gtctgctatg	cctatatgct	gggacacgag	300
cgaagaattt	ttcgtgccaa	cgataacgga	gagccgtcgg	gtactgccgg	caaaccgatt	360
ctgggacaga	tcaactcgac	cgaattgacg	gatatactga	ttatgtgggt	tcgttattcg	420
nnagggatca	agttgggcac	tagtggactg	attgtggcct	atagggccgc	cgcgcgaggc	480
ccatcgctgc	ntgcaccatg	ggagaganan	ctgtggacga	ggaagtaccc	gtacttttgc	540
agtatccttt	aa					552

&lt;210&gt; 2188

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2188

gaaagtaaaa	gaaaaattat	ggaacaatta	ttaagtttat	tcgctccgctc	catcttttgtg	60
gacaacatga	tattgcctt	cttctctgggt	atgtgttcac	atctggctgt	gtcgaagaat	120
gtgaaaactg	ctgtaggact	gggtatcgcc	gtaactttcg	tattgggtgg	tacgttgccg	180
gtcaactact	tgtttcaaac	taaggtgctg	gctgccaatg	cgatcattga	aggtgttgac	240
ctcagcttcc	tgagttttat	tctctttatt	ggccgtatgg	ccggattcgg	ccaattggta	300
gaaatgggtg	tggaaacgctt	cagcccttcg	ctctacgctt	cactgggtat	cttctctccg	360
ctgatcgccg	ttaactgtgc	catcatgggt	gcttccactgt	tcatgcagca	gagaatcacg	420
atggatccgt	cgaaccgcga	ggctattacc	ggcgtgggca	gtgctgtagt	atacgactc	480
ggttccggta	ttggctgggt	gctggctatc	gtcggctctg	ccgctatccg	cgaaaagatg	540
gcttactctg	atgttccgcg	tccgctgaaa	ggtctgggca	ttacgtttat	cacagtagga	600
ctgatggcta	tggcctttat	gtgtttctct	ggattgaaat	tataa		645

<210> 2189  
 <211> 255  
 <212> DNA  
 <213> B.fragilis

<220>

<221> unsure

<222> (1), (2)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2189

nnattgcgcg	gtcccttcca	gccccgtggt	gaagacgggtg	ctgagatcgc	gggtgctgct	60
ttccagaatg	aattctctgg	caagaaggta	ttgaaagacg	gacagggttg	actggctgta	120
gagaaaaacg	gtaagggtgac	agaccctgct	tatcagggttg	acgggtatttc	gggtgggtaca	180
atcacttcga	aagggtgtgga	cgccatgatc	aaagcatgtc	tgagccagta	cgataaattt	240
ttaactaata	attaa					255

<210> 2190

<211> 1098

<212> DNA

<213> B.fragilis

<400> 2190

cgaaattgta	taacccaaaa	cactcatcaa	atgaaaaagc	ataatttcag	tgcaggccct	60
tccattctcc	ctcggaagt	aatagaagaa	acagcgaaag	ccattctcga	tttcaacgg	120
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<210> 2191

<211> 984

<212> DNA

<213> B.fragilis

<400> 2191

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gacgccgagg	tgctcgatgc	agcgaaaagaa	ttgaaaatag	tagttcgtgc	cgggtgccgga	300
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ggacagaact	cgaatgctgt	agccgagttg	gtgtttggcc	tgcttggtta	tgctgtccgt	420
aacttctata	acggaacatc	gggtacggag	ttgatgggaa	agaaactggg	tatccacgca	480
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&lt;210&gt; 2192

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2192

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tttgggctca	agaaaacgag	tgcataaaag	gcttttgtct	tcagattcat	ctccgtacct	240
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&lt;210&gt; 2193

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2193

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gccagagaag	ataagattga	gtttgaacag	gaagaggaag	aactctatgt	ttacctctgt	240
gtaaatgttt	atattgggta	g				261

&lt;210&gt; 2194

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2194

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ggagaaatat	gcagaaagct	ggaggaaaaa	aaaggagata	ttgcaggaca	caacaggaat	120
gcccttcccc	gtagtcggcg	aacttatcct	gacacgttcc	tatccgttcc	tagccaaaac	180
acttga						186

&lt;210&gt; 2195

&lt;211&gt; 811

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2195

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gacaaactca	acacattgct	tataaacgct	ttggtttcta	caggcgagtt	gaaggaaatt	420
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atccgtgccca	accgatgcag	ttcgctctac	aatgacatct	ttgctctgag	aggatggaag	780
acggaggaga	ttaacgcat	ccagttcgaa	c			811

&lt;210&gt; 2196

&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2196

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gattccggtg	aaatcggatc	gacagaccga	aatggagaat	ttatgtttag	ccgtgatcag	180
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gttgccgggtg	acgaaacact	ggtccgaatg	gttactgata	aacacaggcg	gtcgaacttca	480
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&lt;210&gt; 2197

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2197

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&lt;210&gt; 2198

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2198

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tcagcgagat	ag					252

&lt;210&gt; 2199

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2199

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caaatcgat	cgagaagtat	cttgaccogt	cccaatcaat	ttacaacgct	ccgtggaatc	180
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<210> 2200  
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 <212> DNA  
 <213> B.fragilis

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 tcttga 486

<210> 2201  
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 <212> DNA  
 <213> B.fragilis

<400> 2201  
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 accgaattag tacagttggg tgggaaacta ttgcgcggtt gtgcctcatg ttatacctgt 180  
 ttcaagacaa aggacgggaa atgtgcgatt aagaccgatc caatgaatga gttcatccaa 240  
 aaggcccagg aagcagacgg tattattctg gcttcgccta cttattacgg cagtgtgagt 300  
 gccgaaatga aggcatttat ggatcgggtt ggactgacca cgatcgggtca gggacgtaca 360  
 ctgacacgta aggtgggggc ggctgtaatt agtgccgta ggggcgggtgc tgtaacagtg 420  
 tatgatgaac tgaaccgttt tatgctcgga agcggaaatga ttgttcccgg atctacctac 480  
 tgggaatttcg gtattgggtga aatgccggga gaggtttttg atgacgcaga agggttgaga 540  
 aacatgaaag acctgggagt gcagttggca tggcttctga aggcgatata taattaa 597

<210> 2202  
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 <212> DNA  
 <213> B.fragilis

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 gaagctgtcc ggaaaattaa agaaacgttt gtagccgatt gtgagccact gtttgttttc 180  
 aatggaacag gcagcaatgt cattgccctg caattgatga ctgcctcta caactctatc 240  
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 ggttgtcaga tccgtcctat cgccactccc gacggaaaac tgactccgca actgatcaca 360  
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 gcccatcaat acggtatgtg ggtacatatg gacgggtgcgc gcatcgcaa tgcttgtgct 540  
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<210> 2203



<211> 2211  
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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

<400> 2204

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 gcttccacta ttccgacagg agagtccgga accgaatatt tccaggaaac caataccgtc 420  
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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
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 <211> 498  
 <212> DNA  
 <213> B.fragilis

<400> 2215  
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<210> 2216  
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 <213> B.fragilis

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&lt;210&gt; 2217

&lt;211&gt; 2052

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2217

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&lt;211&gt; 1605

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2218

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1605

<210> 2219

<211> 1068

<212> DNA

<213> B.fragilis

<400> 2219

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<210> 2220

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<212> DNA

<213> B.fragilis

<400> 2220

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<210> 2221

<211> 1566

<212> DNA

<213> B.fragilis

<400> 2221

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&lt;210&gt; 2222

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (169)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2222

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ggaagaaatt	ga					192

&lt;210&gt; 2223

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2223

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&lt;210&gt; 2224

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2224

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&lt;210&gt; 2225

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2225

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&lt;210&gt; 2226

&lt;211&gt; 3387

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2226

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&lt;210&gt; 2227

&lt;211&gt; 1482

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2227

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 <212> DNA  
 <213> B.fragilis

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<210> 2229  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2231

&lt;211&gt; 402

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2231

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&lt;210&gt; 2232

&lt;211&gt; 606

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2232

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 <212> DNA  
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 ttctggctgc ccaatgacct gaaacgtttc aaagcgttga ccacaggaaa cacaatcatc 180  
 atgggacgca aaacgttcga atcactcccg aaaggggcat taccatcg cgggaatgtg 240  
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 gagatcgatt aa 552

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 <212> DNA  
 <213> B.fragilis

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 gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt 420  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2236

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2236

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gaaatagaac	agttggagaa	taaatga				267

&lt;210&gt; 2237

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2237

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&lt;210&gt; 2238

&lt;211&gt; 816

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2238

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&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2239

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&lt;210&gt; 2240

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2240

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tcagcgagat	ag					252

&lt;210&gt; 2241

&lt;211&gt; 1581

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2241

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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<210> 2245  
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 <212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2245

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&lt;210&gt; 2246

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2246

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&lt;210&gt; 2247

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2247

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&lt;210&gt; 2248

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2248

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&lt;210&gt; 2249

&lt;211&gt; 1044

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2249

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&lt;210&gt; 2250

&lt;211&gt; 1374

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2250

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1374

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<212> DNA

<213> B.fragilis

<400> 2251

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<211> 954

<212> DNA

<213> B.fragilis

<400> 2252

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<211> 837

<212> DNA

<213> B.fragilis

<400> 2253

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&lt;210&gt; 2254

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2254

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&lt;210&gt; 2255

&lt;211&gt; 780

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2255

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&lt;210&gt; 2256

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2256

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&lt;210&gt; 2257

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 <212> DNA  
 <213> B.fragilis

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<210> 2258  
 <211> 1053  
 <212> DNA  
 <213> B.fragilis

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 aataaagaag gcattaatgc cggacgcagt acagctttga ctatctcctg cctgtttctg 420  
 gatgagctat ttcttgtatt ggcctgtccg tttgctttac ttctattttc attcgatgat 480  
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<210> 2259  
 <211> 459  
 <212> DNA  
 <213> B.fragilis

<220>  
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 <222> (374), (432)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 cccggactat tgctgatcgc atcgggtctgg atacagccgg cggttattcg ccagatacgc 300  
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&lt;210&gt; 2260

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2260

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ttacaatga						189

&lt;210&gt; 2261

&lt;211&gt; 2118

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2261

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tatgctttga	tgtttgtccc	tctttccgcc	caaactccac	ataccatcag	cggtatcggt	180
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gaaatcactc	tcaaagaatc	tcaaagcctg	ttgcccgaag	taacagttac	ttccacatta	420
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ccatctttta	aggaaatagc	acaaaaagat	ggagatgtgt	tagatttact	ggatttatta	2100
gatttagata	agaaataa					2118

&lt;210&gt; 2262

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2262

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cccagtgaat	ctacagatcg	gtcttatctg	ctgctagttc	acgccacccc	taaagaaaag	360
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gctgtgggag	aattgggtatt	tgacgtaatg	aaatgcgatg	aaaaaagcca	caacccgatt	600
gacattgaca	cagaatgttc	ttcaacttta	gacagagtgt	ttcggatcga	tatagaaatc	660
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&lt;210&gt; 2263

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2263

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&lt;210&gt; 2264

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2264

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tacgaactga	cggatcaggg	caacaaaatc	ttttccgtac	tttttctttt	tatattcacc	360
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&lt;210&gt; 2265

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2265

aactattttc	tggtttttatc	gactaatgga	ttaaaagaga	caaaaaacat	ggaaatagaa	60
aaagatttta	tagacctact	gactgaacac	aaagcgctga	tatataaagt	ctgttttatg	120
tatgcctcca	atcaggaaga	tttgaacgat	ctttatcagg	aagtagtagt	caacttatgg	180
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catcggatca	aagataaatt	aaaaaagatg	tcgaaccaat	ag		522

&lt;210&gt; 2266

&lt;211&gt; 1698

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2266

atthgcagcc	aaccactaaa	aaaatgtttt	atgacaagag	tccccctttac	acaaaactat	60
cgctggcact	tgctctcct	ccttctcggt	ttctgctgtt	ctttcttcat	taacaatgga	120
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&lt;210&gt; 2267

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2267

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gttattttgcg	cacaagaacc	tgacaatccg	caaaaggcgt	taacaatgtt	aattgaaaaa	120
aggtataagg	atgaagatac	cggttcagac	ggcgtaaact	catttccgaa	acttgagcta	180
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ttgaaaaataa	agaaataa					258

&lt;210&gt; 2268

&lt;211&gt; 1656

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2268

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&lt;210&gt; 2269

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2269

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&lt;210&gt; 2270

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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ccagcgaat ag 192

<210> 2271  
<211> 546  
<212> DNA  
<213> B.fragilis

<400> 2271  
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<212> DNA  
<213> B.fragilis

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<211> 699  
<212> DNA  
<213> B.fragilis

<400> 2273  
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&lt;210&gt; 2274

&lt;211&gt; 2055

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2274

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&lt;210&gt; 2275

&lt;211&gt; 885

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2275

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&lt;210&gt; 2276

&lt;211&gt; 678

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2276

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gcttcaat	tggcata					678

&lt;210&gt; 2277

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2277

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gatgacaa	tcaaaga	ggcatgc	accgatc	aacagaa	tcgtttct	660
ctcgataa	ccaatttac	ggaaacgg	ccataa			696

&lt;210&gt; 2278

&lt;211&gt; 501

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2278

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ctggttat	aacatc	cggtactt	tcccaata	aaaaatca	taatcgcg	300
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tatatatatg	gtatatgtag	taaatgcgac	agggcacaata	agagaaaaag	agtaaataac	480
aacaataaaa	aagaaaaaatg	a				501

&lt;210&gt; 2279

&lt;211&gt; 1827

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2279

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&lt;210&gt; 2280

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2280

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 <211> 1875  
 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2283

&lt;211&gt; 831

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2283

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&lt;210&gt; 2284

&lt;211&gt; 822

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2284

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&lt;210&gt; 2285

&lt;211&gt; 1038

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2285

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&lt;210&gt; 2286

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2286

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&lt;210&gt; 2287

&lt;211&gt; 1521

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2287

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&lt;210&gt; 2288

&lt;211&gt; 1128

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2288

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&lt;210&gt; 2289

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2289

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 <213> B.fragilis

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2293

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taa						903

&lt;210&gt; 2294

&lt;211&gt; 1161

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2294

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&lt;210&gt; 2295

&lt;211&gt; 1281

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2295

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&lt;210&gt; 2296

&lt;211&gt; 1374

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2296

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&lt;210&gt; 2297

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2297

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caggacgtta	ctggttggtta	cggctcttgc	tctgtaggtc	tatatgtctt	tttctatggc	120
ctattcatcc	agaagatttc	aagaaagtac	ttcaattatc	gaatgggtaa	acgattagaa	180
aaagaagatg	tgaggataat	taactga				207

<210> 2298  
 <211> 1515  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (58)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 ttactttacc tgatattcta ccgggtactg atttatcaaa aacaaccggt aaaaatacct 180  
 tttcaccggt tgagtgtatc cggagtattg ctacttgcca ccgccctcct gttcatcccc 240  
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 caggacaatt tcgacaagca atatcgattc atgccagccg aagaggcaga caaactcttt 420  
 gccgaactca aagaccagcc ggttgcccc actgacagca tcccacaact cttcacgacc 480  
 gaacaccgga acgtgatatt aatcatactt gaaagctttt cgtccaaact gatggaaacc 540  
 ctccggaggag agtccaatgt ggcaatcaac atggatcagt tcggacgtga aggggtattg 600  
 ttactcattt tctttgcca cagcttcgcg accgaccgtg gactggcagc catcatcagt 660  
 ggttatcccg cacaaccgac taccagtatt atgaagtatc caaagaaaac gcaacacttg 720  
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 acaccggaga atgaggtcgt attcaactgc gaatcgaact ccacgtcttc agatgaagga 1440  
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 ttggctaaac gataa 1515

<210> 2299  
 <211> 666  
 <212> DNA  
 <213> B.fragilis

<400> 2299  
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 gaattgcccc gtatcaaaaag cattgctgcc gcttacgaga agagtcatga tctggcacia 180  
 gccttggtgga aagagaatat ccgtgaatgt aagattcttg caggcttatt acagccgata 240  
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 gctgaactga catgtatgaa tctgtttcag aatttgctt atgctccggc gaaaactttc 360  
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 gagaactctg aaaaagaggg ggaacagatg ctgtatgcga tgggtgaaaga cgagataaac 660  
 gattga 666

<210> 2300  
 <211> 1425

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2300

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&lt;210&gt; 2301

&lt;211&gt; 2142

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2301

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&lt;210&gt; 2302

&lt;211&gt; 1416

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2302

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&lt;210&gt; 2303

&lt;211&gt; 1080

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2303

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&lt;210&gt; 2304

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2304

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gaaatcagtg	cgatgggttg	tttcgctaac	cgtcagctct	tttacgctgc	attttataaa	420
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&lt;210&gt; 2305

&lt;211&gt; 912

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (151), (197)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2305

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&lt;210&gt; 2306

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2306

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aacttcaagt	cggcattgta	a				201

&lt;210&gt; 2307

&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2307

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&lt;210&gt; 2308

&lt;211&gt; 2124

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2308

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2124

&lt;210&gt; 2309

&lt;211&gt; 4008

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2309

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<213> B.fragilis
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<211> 1380
<212> DNA
<213> B.fragilis
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&lt;210&gt; 2312

&lt;211&gt; 3885

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2312

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&lt;210&gt; 2313

&lt;211&gt; 3066

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2313

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gcttcggcac	tgaccctgtt	cgtgcttccg	gtagcctatt	gcgccattca	caggattaag	3060
ggataa						3066

&lt;210&gt; 2314

&lt;211&gt; 1314

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2314

ctaattctaa	acatgaaaag	aatgaaagct	atgcattgga	tgatgtacac	cctactggga	60
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ccggagaaaa	caacagatct	gatcattccg	gatgatgcgg	actggactac	tacacgaagt	180
gtcaatctct	cgatccactc	tctgtggca	actcgggtag	cgatttatac	cgacgcagca	240
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ctggatgtag	cgaaagcaaa	ccgggcatta	tatgtacagt	atcctgccgg	caaagggaaa	360
gaagtgataa	gcgttccgat	caacagagct	tctacacgtg	cggaactgtc	gattaaactg	420
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&lt;210&gt; 2315

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2315

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ttcggattct	acttctga					498

&lt;210&gt; 2316

&lt;211&gt; 1065

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2316

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&lt;210&gt; 2317

&lt;211&gt; 2322

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2317

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cggggaaatt	ttgaagaaac	ctatagcagt	gacagcctgc	aaggctcata	cgtggcaggc	180
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&lt;210&gt; 2318

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2318

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&lt;210&gt; 2319

&lt;211&gt; 243

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2319

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tga						243

&lt;210&gt; 2320

&lt;211&gt; 1026

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2320

aaaccaatat	gtaccatgag	taaaccgcaa	atcaccatca	aagacattgc	ccgcgaactg	60
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acaagggatg	ctatacataa	gtacgcgcgc	gaacataatt	ataagcccaa	cgtactggca	180
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gatgaaggaa	aaagcggtaa	taaaatcgtg	cgtaccaact	tagtggtacg	gggaacgacg	1020
aaataa						1026

&lt;210&gt; 2321

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2321

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atcgatcagc	tcaactcttt	gcagggggca	ggcatcaatg	cgatcatatt	ccaggtgctg	240
ccggaggcag	atgctttata	tgcttcacaa	ttggaaccgt	ggagccgttt	cctaaccgga	300
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&lt;211&gt; 2814

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2322

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&lt;210&gt; 2323

&lt;211&gt; 771

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2323

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&lt;210&gt; 2324

&lt;211&gt; 555

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2324

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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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765

&lt;210&gt; 2328

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2328

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&lt;210&gt; 2329

&lt;211&gt; 1569

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2329

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&lt;210&gt; 2330

&lt;211&gt; 1248

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2330

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&lt;210&gt; 2331

&lt;211&gt; 1413

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2331

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 <212> DNA  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2335

&lt;211&gt; 1299

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2335



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&lt;210&gt; 2336

&lt;211&gt; 536

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt;

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<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2336

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<210> 2337

<211> 540

<212> DNA

<213> B.fragilis

<220>

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<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2338

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nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	180
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	240
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	300
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	360
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	420
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	480
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	540
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<210> 2339

<211> 312

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222>

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<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2339

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ggtgagatgt	atggaccaca	tcagcattta	cgtatcgaaa	taaattatgt	gaaaaaggga	180
agctgcattc	tccatccgga	tcattgagagt	atcagtcctc	accacggggc	tggaaggatc	240
ngcggagcgt	tcgtannnnn	nnngnnnnngt	accaacggng	gctcagatat	tnntannnaa	300
nnnngggctc	cc					312

<210> 2340

<211> 294

<212> DNA

<213> B.fragilis

<400> 2340

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gatatagaaa	atgcgcttca	agcacttgaa	gaattttctc	agactgaacc	cgtcggtaaa	120
gacgaagctt	actatctgat	gggaaatgct	taccgcaagt	taggagactg	gcaaaaagcc	180
ctcaataatt	atcaatccgc	cattgaactc	aatcccgcga	gcccggctct	ccaggcacgc	240
aaaatggtga	tgatataatt	gaactttctac	aataaagata	tgtataatca	ataa	294

<210> 2341

<211> 846

<212> DNA



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gccgataagg	ttgcaggatt	tataatcggc	atgagccatg	actatggccc	acatgtatta	1260
ctggcagttt	tatttattat	caccaatttg	tttacggagc	tgataacaaa	caatgccgct	1320
gctgcatttg	cttttccgtt	ggctctgtcg	ctttcgggtc	agttgggtgt	cgaccctaca	1380
ccgttctttg	tgggtcattt	tatggctgca	tctgccagtt	tttctacacc	gatcggttat	1440
cagacaaatt	taatagtaca	gggtatcggc	aactataagt	ttatggattt	tgtcaggatc	1500
ggattgccat	taaatcttat	aacattcctg	atttccatat	ttctgatccc	tttaatctgg	1560
ccgttttag						1569

&lt;210&gt; 2344

&lt;211&gt; 501

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2344

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cttgtcatcc	agagacaaag	acgcaacagt	ggcgaccttg	acctgtggga	aggcgaatac	120
acttaccgtt	gtattctgac	caacgattac	aagtcatcga	caagggacat	tgttgaattc	180
tacaatctgc	gtggcggcaa	ggaacgtatc	tttgacgaca	tgaacaacgg	attcggtttg	240
agcaggctcc	ccaagtcatt	catggcggag	aatactgtct	ttcttctgct	tactgcattg	300
atacacaatt	tctacaagac	catcatgagc	aggcttgaca	ccaaggcttt	tgggctcaag	360
aaaacgagtc	gcataaaggc	ttttgtcttc	agattcatct	ccgtacctgc	caagtggatc	420
atgactgcaa	ggcaatacgt	gctgaatatc	tacacagaga	accgagctta	tgcaaaaccc	480
ttcaaaacag	aattcggata	a				501

&lt;210&gt; 2345

&lt;211&gt; 819

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2345

agaatgtata	cagtaaattt	aaaacgaatc	ttcatagtat	cgctatttat	agctataccc	60
tttatgcttt	cggctcaatt	gacctacggg	actacaggat	tgctgcatgc	tccctcggca	120
gaaatgcaga	aggacaaaac	agtcattgct	gggtgaaact	ttatgaataa	ggagataact	180
cctccaacgt	ggtactacca	cacgtacaat	tactacctga	atgtaaccat	tttaccttgg	240
atggaagtag	catatacctg	tactttattt	aaggcgggaag	ctcttggatt	aaaaccttat	300
ggttactcag	gctttacgaa	tcaggaccgg	tatttttctc	tcagattacg	ggcactgaaa	360
gaagggcaat	tctggaaaata	catgcccgct	gttgtagtag	gcacttccga	tccttttacc	420
tcgtccggca	atggagtgtg	ggctccgacg	gaaggtaacg	gatacttcag	tcgtttctac	480
atcgagccca	ccaggcatgt	ccaattagga	agagagacag	tgggagtaca	cctctcctat	540
ctttataaca	aaaggataga	gtacaaactg	aatgggatcg	cggcagggtat	cagttataac	600
ccgtcttttc	atccgcaatt	gagattaatt	gccgaatatg	attcgaaaga	ttttgcatta	660
ggtgccacct	atttgctttt	caaccatttg	catgcacaag	tggaaactcca	aagaatgaaa	720
tattttcacag	gtggattgac	tttccagttc	cgcttgtccg	gaaaagatgg	aatgaaaaag	780
cagaaacgaa	acaaagagtt	aaaacaaaaa	atgaataaa			819

&lt;210&gt; 2346

&lt;211&gt; 1176

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2346

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cacaccgact	acaatggcgg	atttgttttc	ccggggagcta	tcgataaagg	tatgatcgcc	180
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gtaactttcg	gattgaacga	agaagatgct	ccacgcgcca	gctgggcaag	atataatattc	300
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gcctttg	gcgc	tgaatgac	cct	gtttggtg	aa	acaaaaatag	acaaattcga	attagctaaa	480
atcgg	tcagg	ctacaga	aca	caactattgc	gg	gtgtgaact	gtggtattat	ggaccagttc	540
gcttctg	tat	toggtaa	aga	aggtagcctg	att	cgttttg	attgccgctc	tttgaatac	600
cagtact	cc	cgttcaa	acc	ggaaggttat	cgt	ctggtat	tgctggattc	ggtcgttaaa	660
catgaattg	g	cttcac	cg	gc	ataca	acaaa	cgtcgtcaga	gctgcgaggc	720
gccatcc	aga	aaaaac	atcc	acatgtag	aa	ttcctgcgtg	actgtacaat	ggatatgctg	780
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gaactcg	act	tcctga	acga	ctgcgctaaa	gag	tgtggcg	taaccggttc	acgcgttatg	1020
ggcggcg	gct	tcggcg	gttg	tactatcaac	ct	ggtgaaag	acgaattgta	tgacaacttc	1080
atcgagaaa	ag	ctaaaga	atc	attcaaagct	aa	attcggca	gaagcccga	agtgtatgat	1140
gtagttat	ca	gtgacg	gttc	aagaagactg	gt	tataa			1176

&lt;210&gt; 2347

&lt;211&gt; 1131

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2347

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gtgagtgtag	gtgttggcgc	tcagggtt	gt	gtaaaccgcg	acaactttga	ttatggcttt		180
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ggtatccgtg	gtcaggtagc	cggtgc	atgg	actactttgt	attctaacta	tggacagcct		300
gccgatactt	atattaagag	caagaataaa	cattacttca	ctatgcgtgc	agacggtatg			360
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accgacgg	tg	ctgttctct	gactgc	cggt	gtgacttaca	cttccggtgg	caagagattt	660
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accggtagcg	ctaagtggaa	ccagaaactg	tctgaagctc	gtgcacaggc	tgtttatgat			1020
gcacttatca	aagaagggtg	aagtaaggat	cagcttgaac	tcgtcggctt	cggtgggtact			1080
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&lt;210&gt; 2348

&lt;211&gt; 843

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2348

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ccgcgggatt	atgccgagat	caaagaaagc	ggcattcttc	atgctgcaac	agaatacaac	180
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aatgaaatag	gcgatacogat	ctatgttaac	gaaatagaga	aatatggttc	cgagcaactg	600
atcgcaatgg	ttgctcacgg	agacatcgat	tatgccgat	gtgacgaggg	catcgcccg	660
atggctgtgg	actcgctacc	ccagctcgat	atcaataccg	ccatcagttt	cacgcaattc	720
tattcatggg	gagtcagcaa	gcaatctccc	gccctactcg	acagcctgaa	tacatggcta	780

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<211> 273

<212> DNA

<213> B.fragilis

<400> 2349

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agatgcagca	gtatcttcgg	atatcagttc	agcgagatag	tccgttcgct	gatgagcggt	180
tattttctgtg	gcggctcatg	cgtggaagat	gtaacgtcac	aactgatgcg	ccatctgctc	240
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<210> 2350

<211> 195

<212> DNA

<213> B.fragilis

<400> 2350

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gattttggtt	tgtaa					195

<210> 2351

<211> 1095

<212> DNA

<213> B.fragilis

<400> 2351

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aatgcagggt	ttgttcagaa	gatcgggttat	actcggatta	gtgtattgaa	tggttatagc	900
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ggcaaatatt	atgaagggtat	cgtttcttat	cagaagagcg	taatgatcta	tcctaactat	1020
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<210> 2352

<211> 1569

<212> DNA

<213> B.fragilis

<400> 2352

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gatgttccca aagtgaccga ccctacagct acgacgtacc aagtagcagg tattgttaca 180
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<211> 192

<212> DNA

<213> B.fragilis

<400> 2353

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tttatctacg tatgcggcgc ggcaattttt gtcaagctga tggagttttt tatacggttc 180
accaacagat aa 192

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<210> 2354

<211> 396

<212> DNA

<213> B.fragilis

<400> 2354

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<210> 2355

<211> 312

<212> DNA

<213> B.fragilis

<400> 2355

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&lt;210&gt; 2356

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2356

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&lt;210&gt; 2357

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2357

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&lt;210&gt; 2358

&lt;211&gt; 1383

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2358

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&lt;210&gt; 2359

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2359

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&lt;210&gt; 2360

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2360

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&lt;210&gt; 2361

&lt;211&gt; 1191

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2361

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&lt;210&gt; 2362

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2362

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&lt;210&gt; 2363

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2363

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&lt;210&gt; 2364

&lt;211&gt; 1443

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2364

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&lt;210&gt; 2365

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2365

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&lt;210&gt; 2366

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2366

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&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2367

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&lt;210&gt; 2368

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<400> 2368

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<210> 2369  
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 <212> DNA  
 <213> B.fragilis

<400> 2369

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 <213> B.fragilis

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&lt;210&gt; 2371

&lt;211&gt; 777

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2371

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&lt;210&gt; 2372

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2372

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 <213> B.fragilis

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 ttttatcttt tccatgtcac gttttccttc cttctccgtc ttgcttatgt aaatggaact 180  
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 <211> 240  
 <212> DNA  
 <213> B.fragilis

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 gtcattgctgt atagcatcgg gaaggattct ttcgttatgg tacggccttg ccgaaaaaag 180  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2377

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2377

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&lt;210&gt; 2378

&lt;211&gt; 438

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2378

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&lt;210&gt; 2379

&lt;211&gt; 1071

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2379

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 <212> DNA  
 <213> B.fragilis

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<210> 2382  
 <211> 1980  
 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2383

&lt;211&gt; 1110

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2383

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ggaggacacg	gtgactataa	actcatcgca	ttggctccgg	cttctgttca	ggaaatggca	480
gacttttgtcg	gactcgcttt	cgaacttgcg	ttcaaatacc	gtaatccggc	catcatcctt	540
gcagacgggtg	ttatcggaca	aatgatggag	aaagtgggtc	ttcctcccg	aaaagcccg	600
cgtacgggatg	cggaagtcac	agcacaatgt	ccatgggctt	ctaccggaaa	gacaaaagac	660
cgtaagccca	acatcatcac	ttcgttggaa	ctgcgtccgg	aagagatgga	gaaaaacaac	720
ctccgcttcc	aggcaaagta	cagagtaatt	gaagaaaacg	aagtacgttt	tgaagaaatt	780
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aaagcaatgg	aactggcccc	tgaagagggg	attaaagtgc	gtatgcttcg	ccccatcact	900
ctatggccgt	tcccagcgaa	agcgattgcc	gagtatgcca	ataaggtaaa	aggtatgctg	960
gtaaccgagc	tgaatgccgg	acagatggta	gaagacgttc	gttttagcag	gaacgggaaga	1020
gtgaaagtgg	aacatttcgg	ccgcctggga	ggaattgttc	ccgatccgga	cgaaatagta	1080
actgcattga	aagaacaatt	aatcaataaa				1110

&lt;210&gt; 2384

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2384

ttaccggaac	gaaagccatg	ccgtattatc	gttttgaata	acaatgtgcc	gcaaatatct	60
ctttattatc	agccatcttt	caaagatagt	acagtaaata	ttagcagaca	agactgggaa	120
gttagttata	atctgggaaa	tagctggaac	aaagtaaaaa	ggaataaaaa	agcaaatagc	180
tctttgtata	aagtagatat	cacaatatat	ccggaattat	cactaaaaaa	cttggtaatc	240
acacagattt	atcaagtgtc	tttcaattta	tcaccgcgca	tagaagtctc	tttctggaaa	300
gggatgaaat	tcacggctca	aatggtgatt	ccggtatata	atgacggata	tgccagcaga	360
tacgataaac	tacatccggg	tttccttgaa	ctatcgcaaa	cagtccgtct	gccctataat	420
ttttgggcaa	cattggctat	cggtagcttt	ataatagcc	gatatggcat	cgacttcaac	480
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acaggatatt	gggaaggttt	tactatgcat	tatggaacaa	agatgcgggc	tacatggtca	600
ttgggaggaa	gctttttattg	gccacgctat	aatgtagaat	taaagtcaag	agttgaacaa	660
tatctattaa	aggagaaagc	agttagagta	gaagcaatcc	ggcatttttcg	ctatgcttcc	720

attggattct	atgcaatgaa	agccaaagac	gtgaaagcca	atggaggatt	ccgtttccaa	780
atagctttac	ccccttaccg	atataaacgc	aaaggatata	ttcctcggat	cactccttcc	840
ataaatatgg	gaatgtctta	taatgcggga	aatgaacaat	attactataa	gacttatcgc	900
tcagcacctg	acgataacat	aatgaagaac	aatagtttta	atccatattt	taccttaatt	960
ccgcaacact	ataatttaac	tttattttata	agttcctga			999

&lt;210&gt; 2385

&lt;211&gt; 462

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2385

aagaaacgaa	gtatgaataa	agtcattcgc	accacatgga	ttatcctgct	acttactgtc	60
gcctccggca	tggcaagagc	acaacagggg	ctacaaatag	cttccgtatt	ccagaaatac	120
ggtaaaca	aaggagtgc	tatggtagag	ctgtccaacg	aaatgctgga	aacctaccag	180
atgactctct	ataaaagcct	tgtcttttaa	gacgttgaag	aagcactgcc	caccattctc	240
aactgtctgg	atgctgacaa	aaagaaggca	aagaaagtga	aggaagtggg	ggcaggcgga	300
caaataccagt	ccggctatta	tcaattgccc	cagctaaaag	aagatgtcaa	ccggttcctc	360
ctgttcaaaa	ccggtaaaaa	aggctcggct	accctgattt	acatcgaggg	cgagttggat	420
gcagacgatc	tggttaaccat	gttattttatg	aaaaaaaaact	aa		462

&lt;210&gt; 2386

&lt;211&gt; 993

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2386

aaagatatga	gcaataagat	tataaaatgg	ggattcattg	gttgccggaga	ggtgacaaaa	60
tacaaaagcg	gacctgcttt	tcagaaagta	gaaggctcca	aagtagtggc	agtcattgagc	120
cgtgacggta	aaaaagccaa	agcctatgct	aaagagcgga	acataccgaa	gtggtatgac	180
gacgcacaag	agttaataga	cgatccggaa	gtaaatgccg	tatacatagc	cactccgccc	240
tcttcgcacg	ccacttatgc	catcatgtcc	atgaaagccg	gaaaaccggg	ttatatcgaa	300
aagccaatgg	cacagactta	cgaagagtgt	gcccgcacat	accgcattct	acaagagacg	360
ggagtccctt	gtttttgtagc	ctactaccgg	cgttacctgc	cttactttat	gaaagtgaag	420
gaactgggtg	acaaaggtac	gatcggcaat	gtaatcaacg	tacagatccg	ttttgcacag	480
ccccctcgcg	atctggacta	taacagagag	aatctgccct	ggcgtgtaca	ggccgatatt	540
gccggaggag	gatacttcta	tgacctcgca	ccacaccaga	tcgaccttct	gcaggagatg	600
ttcggctgca	tactcgaagc	cagtggctat	aaaagcaacc	gtggcggact	ctatccggca	660
gaagatacac	tgagcgcacg	tttccagttc	gacaacggat	tggtagggag	cggttcgtgg	720
tgctttgtag	cccatgattc	ggcccgcgaa	gaccgtatcg	aaattatcgg	cgataaaggc	780
atgatctgct	tctccgtatt	tacctatgac	ccgattgccc	tccatactga	aagaggacgt	840
gaagaaataa	tggtagaaaa	ccctgaacac	gtacagcagc	ccttgattca	ggccgtagta	900
gaccatcttc	ttggaaaatc	cacctgttcg	tgtgatggcg	aaagtgccac	aacgactaac	960
tggttgatgg	ataaaatatt	gggaaagatc	tga			993

&lt;210&gt; 2387

&lt;211&gt; 1131

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2387

ttgtttttgga	gtatgaaaaa	acttggaactt	ttactaatgc	tattcacatt	tgccgcttgt	60
actaatgatg	atTTTTctgt	attacaggaa	aatgaagaaa	ttaccttacc	cactgctgta	120
actagggcct	ctggagataa	actatatgat	ttattaggtt	atggatatga	tgtgacagga	180
ttatacttta	cttctgcttc	tgctaaaagt	aaaataattg	atatagttgc	actgagaaag	240
gattatgagg	aaagggctga	tattggcgct	gtaccttcca	attatgctag	aatgacttcg	300
ggtactacgg	cacaagacta	tactcgtaat	gtaacttcta	aagtaaaact	cggaggagca	360
ttatctttat	tctcgggttc	tttgagtagt	tcttttagta	gcactcaaca	ttatacatcg	420
aaatactcta	tagctgatta	tacgtctttt	attaggagac	gtagactttt	tcttactgct	480

tcgactgagt	tactatctaa	atatttgaca	aaaatgtttg	ttgatgattt	atctaaacaa	540
tctccgtctt	ttattattca	acattatggg	acacatgtat	taactgatat	tactttggga	600
ggaagaataa	cagttctata	tagaagttct	attaatacat	caaagaaaac	agcaaccgta	660
gaagctggat	gtgcatcggg	tataaaaaat	atgtttaatt	tgagtgttga	tgggcattat	720
gatcaaacct	tggttaagga	taattcggag	caggaaattg	tttatagaac	agagggagga	780
gatccgagta	gagctttaat	agggcaactt	aattatgatt	ctaaaaatcc	atccgtaatt	840
gatatatcat	catggcaaca	gagttgtgat	gataataata	tgactttagt	tgatgcagaa	900
cctggaagtc	ttattccaat	ttatgatttg	gtatctgata	tgggtaagaa	agagcagttg	960
aaacttgccg	tggaaaatta	tttgaaggag	catagttatg	tagacattga	tgattctagt	1020
aaaggaggag	ctgtacgtaa	taattcccgg	gggcataata	ccagttcgta	tggtaattca	1080
actcgagtta	ttggggctaa	tggaaataga	agtacttata	ggagaccata	a	1131

&lt;210&gt; 2388

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2388

aaaaaaggag	gaaagatgat	tcagaagaca	tatcgccgtg	gggtggcaag	tctgctaact	60
ttgtgttcag	cttctgctgc	agcgcagcag	aaagtagaga	tactcccttt	tgggaatatg	120
gatcaatggg	tgacgcggga	aataaaaagag	tccggcatta	ttggcggaaa	taccaaaaaa	180
gtatatgcga	ttggccctac	cgaaccatt	gtgggtgcga	agccttatac	aaataaaggt	240
ggttcacccct	ggggaacttc	taacgtaatg	gcacgtgtgt	cgggtattac	caaaaccaat	300
acttcggtat	ttcccgaaac	cagaggagac	ggtttctgtg	ctcgtctgga	tactcgtatg	360
gagagtgtaa	aagtacttgg	tattgtagat	atcacccgtac	ttgctgccgg	atctatgttt	420
ttgggaacgg	ttcatgaacc	gattaagagt	accaagaatc	cgaataagat	gttgcagatg	480
ggaataccgt	tactgagcg	tccgtcggct	attcagttcg	actataaagt	gaaaatgtcc	540
gatcgtgaaa	accgtatacg	tgcaacggga	ttcagtaaga	taacggatgt	gccgggtaag	600
gattttccgg	ctgttatttt	attgctacag	aaacgttggg	aagatgcaa	aggcaatgtg	660
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atgatgcgac	ttcaggcctc	tgaatathtt	acggtaaaca	gtaagggcga	aagtgtgccg	840
attcatgaag	tggcgtgggg	ggaagctgat	gatgtgccga	cgcataatgat	acttcagttt	900
acatccagtc	atgggtggtgc	ttatatcggt	tcaccgggaa	attcgctcta	cattgacaat	960
gtaaaactga	tctattaa					978

&lt;210&gt; 2389

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2389

gacaagaggg	gttacacctc	tcccacccca	atacaagaac	agtcaatccc	catttttactt	60
caaggaaaag	atattattag	ttgtgctcaa	acaggtaccg	gtaaaacagc	tgctttttct	120
atccctatct	tgcaaaaatt	gtataaaacc	gaccatcgta	aaggtatcaa	ggcacttgtg	180
ctgacgccaa	cccgggaact	tgcaattcag	ataggtgaaa	gtttcgaagc	atacggacgg	240
tataccggtc	tgaaacatgc	cgtaattctt	ggaggagtag	gacagaaacc	acagactgac	300
gctctacgga	gcggatttca	gatactgggt	gccactcccg	gcagattatt	ggatttgata	360
tcacagggat	ttatctccct	gaattcactt	gatttttttg	tattggacga	agcagaccgt	420
atgctggaca	tgggatttat	ccatgacatc	aaacgcaccc	tgaaactgct	accggcccga	480
agacaaaact	tgtttttttc	ggcgaccatg	ccaccggaaa	tagaaacggt	ggcaaattcg	540
atgttgacta	aaccggagaa	agtggaaagt	accccggcct	cttcgactgt	ggacatcatc	600
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aaagatacat	caatcgacta	ggtacttatc	tttacgcgta	caaaatacgg	agccgacaaa	720
ttggcacgtg	tactgactaa	agccgggtatc	ggagctgaag	cgatacatgg	taacaaaact	780
caaaatgcac	gccagcgtgc	tttgaccaat	tttaagaacc	atacccttcg	cgccttgata	840
gcaaccgaca	ttgctgcacg	cggcatcgat	gtagaccaat	tatcacacgt	aatcaattac	900
gagttgccca	atgttccgga	aacttacgtg	caccgcacgt	gtcgtaccgg	acgtgccgga	960
catgaaggag	tggccatctc	tttctgcgaa	tcagaagaac	tgcctactct	aaaagatatc	1020

caaaagtga	tagggaaaa	catccccgtg	gtaaaagacc	acccgtttgt	cacgaccgaa	1080
ggtatcaagg	cccaggaaga	aaagcaggaa	gaaatcaagg	ttaaagccaa	agccaacaaa	1140
acataccgcg	ggagccgggc	taatggcgac	ttctggagac	ggaaaaagca	aaaaacaaat	1200
caaccgtctt	ccaccaaaca	ggaaaaaagg	aaatag			1236

&lt;210&gt; 2390

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2390

tctaagtta	taacaagaaa	aacaaaaatg	tatccgttaa	aattcgaacc	cattctgaag	60
cagacgcttt	gggggggoga	caaaattatc	ccgttcaagc	atttgaatga	tgatttgaag	120
ggagtgggg	aaagctggga	aatatccggc	gtagagaaca	acgaatctgt	cgtagctaac	180
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aactcaaaag	gtaaaactga	aatgtggtat	gtagtgggtg	ctgacgaagg	agccaaactg	420
cgttcgggat	tttctgaaca	gattacaccg	aaagaatata	aagaccgcgt	gcataataat	480
acaattacag	atgttcttca	ggaatatgaa	attcatccgg	gagatgtttt	cttcctgcct	540
gcagggcgta	ttcacagtat	tggtgccggg	gcatttattg	ccgaaattca	gcagacgtcg	600
gatatacatt	accgtattta	tgattttaat	cgtaaagacg	ccaatggaaa	aacacgtgaa	660
ttgcatacca	gccaggcact	tgatgcgata	aattatgaag	tgctcgatga	ctatcgtaac	720
aaatatgaac	ctttgaaaga	tgaaccgggt	gagttgggtg	catgtcctta	tttcacgact	780
tcggtttatg	atatgagtga	acagatcagc	tgtgattatt	cggagctgga	ttcattcgta	840
atctttattt	gtatagaagg	ctcttgccctg	atgacagata	atgaaggcaa	cgaagtgcga	900
ctgggtgcag	gagaaactgt	tttgcttctc	gccactactc	aggaattgac	cattgtgcct	960
caagaaggga	atgtgaagtt	attggaaaca	tacgtgtaa			999

&lt;210&gt; 2391

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2391

gttaatatta	ttaagatgaa	agaagaaata	attatagcag	gattcgggtg	acaggggtga	60
ctgtctatgg	gaaagatttt	agcctattcc	ggactgatgg	agggcaaaga	agtgcactgg	120
atgccggctt	atggctcctga	gcaacgtggc	ggaacagcca	acgttacagt	cattgtaagt	180
gacgacaaga	tctcttcacc	gatcttgagc	aaatatgata	cagctatcat	tctgaatcag	240
ccttcactgg	aaaagttcga	aagccgtgtg	aaaccgag	gtatcctgat	ctacgacgga	300
tacggcatta	tcaaccgcc	taccgcgaag	gatatcaagg	tgtaccgcat	cgatgcaatg	360
gatgcggcca	atgaaatgaa	caatgctaaa	gcattcaaca	tgatcgtgct	gggaggattg	420
ctgaaacttc	gccccattgt	cactttagaa	aatgtagtga	aaggtttgaa	gaaaactttg	480
cccgaacgcc	accatcacct	gatcccgatg	aacgaagagg	ccatcaaaaa	agggatggaa	540
ctgatcagag	aagcttaa					558

&lt;210&gt; 2392

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2392

gatatgattt	tacctattta	tgtatatggt	caaccggttc	tcagacaggt	agcgggaagat	60
ataactgtgg	actatccgaa	tctgaaggaa	ctgattgaaa	atatgtttga	aacgatggat	120
catgctgacg	gggtaggact	tgccgctcct	cagatcggtt	tgctatttcg	tgtcgttgtt	180
attaatctgg	atgtgctttc	tgaggattat	cccgaatata	aagatttttcg	caaggcttat	240
ataaatgccc	atattgatgt	ggtagagggg	gaggaagtat	ctatggagga	aggttgtctc	300
agtttgccgg	gtattcacga	gtctgtgaag	agaggcagca	agatacacgt	aagatatatg	360
gatgagaatt	ttgtagaaca	taatgaggtg	gtagaaggat	ttctggcacg	ggttatgcaa	420

cacgagtttg	accattttgga	tggaaaaatg	ttcatagacc	atatctctcc	tctgcgtaag	480
caaattgataa	aaggaaaatt	gaacacgatg	ctgaaaggta	aagcacgcag	ttcttataaa	540
atgaagcagg	tgaagtga					558

&lt;210&gt; 2393

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2393

tcaatagata	tgaacgatag	taaactttatg	aatcgtgcgg	ctgataatat	ccgcatatta	60
gctgcgtcga	tggtggaaaa	agccaattcg	ggacaccccg	gaggcgccat	gggcggtgct	120
gatttttgtga	acgtactctt	ctctgagttt	ttggtatacg	atccgcaaaa	cccacgctgg	180
gaaggtcgcg	accgcttttt	cctcgacccg	ggacacatgt	caccgatgct	ttattccgta	240
ttggcctttca	ccggaaaata	tacattggac	gaattaaagc	aattccgtca	gtggggcagc	300
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cgctttggcg	aagtaatgaa	ccagactatt	tacgcatata	tatccgatgg	aggtatccag	480
gaagaaatct	ctcaggggtgc	cggccgcatt	gccggtacac	tcggactgga	caacctgatc	540
atgtttctacg	attcaaacga	cgtacagctt	tctaccaaca	cagaagatgt	aacaacggaa	600
aacgtagcca	tgaatatatga	agcatgggac	tggaaagtaa	tcacaatcaa	cggtaacgat	660
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gccgactcgcg	cgacacacgg	cgcaccattg	ggcggagacg	catatgtaaa	tacaatcaag	840
aacctgggtg	gaaatccgga	gaatccattc	accattttcc	ccgaagtagc	cgaactgtat	900
gccaaacgcc	gcggaagaac	tgaagaagat	tgttgctga			939

&lt;210&gt; 2394

&lt;211&gt; 1131

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2394

ccgaactgta	tgccaaacgc	cgcggaagaa	ctgaagaaga	ttgttgctga	caaatatgca	60
gcaaaagcag	agtgggcaaa	agcaaaccct	gaaaaggcag	ctaaactggc	cgaattcttc	120
tctggaaaag	ctccgaaagt	aaactgggat	gccattgaac	agaaagccgg	cggcgcaacc	180
cgtgcaggat	ctgcaaccgt	attaggagca	ttggccactc	aggtagaaaa	tatgatcggt	240
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gggttatttc	gtaatcaaag	caaagagtat	caagaatcca	tacttcctgc	aggagccaaa	960
atctttggtc	tgacagccgg	acttcgggtg	aatcttgaag	gttttggtagg	ttccaacggg	1020
aaagtgttcg	gtcttgaatc	atcttggttc	tcggcaccct	acaaagtgtc	ggatgagaaa	1080
ctgggattca	ccgcagaaaa	cgtatacaat	caggtaaaag	caatgctctg	a	1131

&lt;210&gt; 2395

&lt;211&gt; 408

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2395

agcaataaca	tggacaatcg	gacagagcag	tattcacttc	gggaactggt	agaaagcatc	60
acagaaaata	ttaaaaccaa	gogcctggct	gacgtttttc	gcttcatttc	attccatccc	120
ggtgagatgt	atggaccaca	tcagcattta	cgtatcgaaa	taaattatgt	gaaaaagggg	180
agctgcattc	tccatccgga	tcatgagagt	atcacttttc	gtgaaggaga	aattatgatt	240
atcacttcgg	acatcagtc	tctgtttgaa	gccggagcag	atggtagcac	cttgatgcaa	300
ttggaattcc	tacccgaaat	cttttccac	ttcaacttga	atgccacagc	cgattcgaac	360
ggctctgccc	tgctatggac	aaatcgattt	aagattaaaa	tagaataa		408

&lt;210&gt; 2396

&lt;211&gt; 618

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2396

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&lt;210&gt; 2397

&lt;211&gt; 2697

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2397

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&lt;210&gt; 2398

&lt;211&gt; 1257

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2398

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&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2399

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&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2400

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&lt;210&gt; 2401

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2401

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&lt;210&gt; 2402

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2402

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
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<210> 2406  
 <211> 1233  
 <212> DNA  
 <213> B.fragilis

<400> 2406

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&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2407

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&lt;210&gt; 2408

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2408

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&lt;210&gt; 2409

&lt;211&gt; 567

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2409

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&lt;210&gt; 2410

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2410

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&lt;210&gt; 2411

&lt;211&gt; 2229

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2411

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 <212> DNA  
 <213> B.fragilis

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gaatatgggt	tcgataaaga	attggagaaa	agggaaaggg	aacaaaaaag	gattgataat	900
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 <212> DNA  
 <213> B.fragilis

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<210> 2414  
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 <212> DNA  
 <213> B.fragilis

<400> 2414						
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&lt;210&gt; 2415

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2415

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&lt;210&gt; 2416

&lt;211&gt; 1818

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2416

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&lt;210&gt; 2417

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2417

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&lt;210&gt; 2418

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2418

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&lt;210&gt; 2419

&lt;211&gt; 969

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2419

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&lt;210&gt; 2420

&lt;211&gt; 3108

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2420

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&lt;210&gt; 2421

&lt;211&gt; 426

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2421

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&lt;210&gt; 2422

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2422

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tga						363

&lt;210&gt; 2423

&lt;211&gt; 780

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2423

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&lt;210&gt; 2424

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2424

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&lt;210&gt; 2425

&lt;211&gt; 843

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2425

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taa						843

&lt;210&gt; 2426

&lt;211&gt; 981

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2426

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<212> DNA  
<213> B.fragilis

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<210> 2428  
<211> 882  
<212> DNA  
<213> B.fragilis

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<212> DNA  
<213> B.fragilis

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&lt;210&gt; 2430

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2430

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&lt;210&gt; 2431

&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2431

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&lt;210&gt; 2432

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2432

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&lt;210&gt; 2433

&lt;211&gt; 2487

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2433

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ggagatattg	attggaatgt	gaaatga				2487

&lt;210&gt; 2434

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2434

tgtaaaacttc	aggcggttgcg	gatagtgggc	tatggagacc	gcgaagatca	ggatgcccga	60
-------------	-------------	------------	------------	------------	------------	----

caggatgggg	ccgatgatca	gcgcatagag	ccccggctccg	cacagggctg	ccacgacggc	120
agccgtttccg	gtggctatct	gtatgacgaa	actccgcagg	gcgatgaact	taaactcttt	180
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&lt;210&gt; 2435

&lt;211&gt; 489

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2435

accattacta	acaattgtgc	gatgaataaa	acagtcacgt	ctatactatc	attgactgct	60
gtcagccttt	tactgatagt	gataacattc	tttttgggtg	gcttaggctt	cgggcgacta	120
tttggaatat	atgggtgtat	ggaagatagt	tttttaggta	tgcttatggt	tatagatatg	180
ctggtaatat	acaaggctca	taagctatat	ttctgtcagc	ccaaagctat	aatgttattg	240
tttggttttg	aatgttgctc	tattcttttg	tggtttgtct	ttatctgttt	agaccaacat	300
ctattggatt	ggcaaataac	caatctgtta	ttgcaagcag	tcagtttgga	cggcttcgca	360
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agcatctga						489

&lt;210&gt; 2436

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2436

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atgattttca	aattgatgat	gatggtttcc	cgggttcgtga	gggttcgggt	gtatgtgtct	240
ctcctgctcc	atcgaggggc	atga				264

&lt;210&gt; 2437

&lt;211&gt; 1260

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1201)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2437

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gacacacgcg	acgtgcccgc	caacgcctat	cggggcatgt	acctcgactt	ccgtggcatg	780
atgtaccaaa	agttcctggg	aagcgacaat	aattttctacc	gcctggagat	agactaccgc	840
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&lt;210&gt; 2438

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2438

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atggtaaagt	cgggtaatac	gacctatacg	ggattggtag	aaggcatcgg	gtatgtatat	120
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attaaaagtt	attgtgaaat	acctcttccc	ataataaaat	ccaaaggagc	actaaaggga	420
aatgacgcaa	gaaatgggat	actatcatta	ggtagtcaaa	taaatgacca	aatcggagct	480
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&lt;210&gt; 2439

&lt;211&gt; 1755

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2439

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ctgatagctg	actaa					1755

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 <211> 921  
 <212> DNA  
 <213> B.fragilis

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<210> 2441  
 <211> 459  
 <212> DNA  
 <213> B.fragilis

<400> 2441						
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aactacgatt	cgcggtgtta	aaaagggtgtg	gtgactatca	ttgtgataga	agccaaagag	420
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<210> 2442  
 <211> 1170  
 <212> DNA  
 <213> B.fragilis

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caaaacaaaa	catggagcat	aatggattga				1170

&lt;210&gt; 2443

&lt;211&gt; 1227

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2443

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&lt;210&gt; 2444

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2444

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&lt;210&gt; 2445

&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2445

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aaattatata	tgggaccttt	atcaaacgaa	taa			453

&lt;210&gt; 2446

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2446

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&lt;210&gt; 2447

&lt;211&gt; 1314

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2447

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&lt;210&gt; 2448

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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attggtatgg ccgaagtttc cggatatagcc aatgctccca tcgctgcctt cgctgttcct 180  
gccgccccct cctccgggag gagaaagggc tacttccgtt acgtccgtat gcggggtggg 240  
agacattggt ggacgaaata caagccaacc gtttctggat ga 282

<210> 2449  
<211> 303  
<212> DNA  
<213> B.fragilis

<400> 2449  
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agtatttcca tatatagaca tgcactcttt caagagttcg caaaacactt tgaaatgaaa 180  
gatgatttta acatcttcat cctctgctac tataatgtct ttatccatgc tgttatcatt 240  
tataagttat tccaagttgt gactaatgta ttcaataacc acaccttatg gtgtagttcc 300  
taa 303

<210> 2450  
<211> 1404  
<212> DNA  
<213> B.fragilis

<400> 2450  
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aaagagaaga aaaaaagaga ttga 1404

<210> 2451  
<211> 450  
<212> DNA  
<213> B.fragilis

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gatgaaaccg	cattattcaa	cgctcttggc	gtgctggctt	attttcatct	gaaaggaaga	420
atgaaagaag	aattaaaagg	aataagataa				450

&lt;210&gt; 2452

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2452

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gaaggggaac	tagctgatta	taataagaca	ttaagcataa	accctaaata	cttaaaagct	420
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gaccgtaagg	gagcttgtga	ggattgggtg	aagagtagcg	aattaggatg	tacacaagca	720
aatatattgt	tgcccttgtg	cgatgagtat	ataaaaagaag	aaaatgactc	tctgaaaaaa	780
gaaaaagagt	cagctaataa	gatagaataa				810

&lt;210&gt; 2453

&lt;211&gt; 1899

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2453

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&lt;210&gt; 2454

&lt;211&gt; 1395

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2454

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&lt;210&gt; 2455

&lt;211&gt; 2406

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2455

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&lt;210&gt; 2456

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2456

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&lt;210&gt; 2457

&lt;211&gt; 2805

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2457

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&lt;210&gt; 2458

&lt;211&gt; 255

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2458

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&lt;210&gt; 2459

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2459

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219

<210> 2460

<211> 1488

<212> DNA

<213> B.fragilis

<400> 2460

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<210> 2461

<211> 789

<212> DNA

<213> B.fragilis

<400> 2461

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<210> 2462

<211> 183

<212> DNA

<213> B.fragilis

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&lt;210&gt; 2463

&lt;211&gt; 2316

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2463

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&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2464

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&lt;210&gt; 2465

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2465

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&lt;210&gt; 2466

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2466

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&lt;210&gt; 2467

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2467

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&lt;210&gt; 2468

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2468

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&lt;210&gt; 2469

&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2469

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gtttataaac	ttgaaagaaa	taagaatgaa	ataaaattca	tcaataacaa	cgaaagttac	840
cacctaaacg	atgatccttt	ctaa				864

&lt;210&gt; 2470

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2470

gctgagcggga	tagagtacgg	ctatcaacag	gatgctgacc	atcaggggcg	agatcagttg	60
gatggcgaaa	tggcgcaagc	tgcggtgcag	cgtcatccgg	tacatcatcc	agtagcactg	120
agcgaagttg	acggtaaagc	tgagcgtgat	gcatgtggct	acagcttcga	gcgtgccgaa	180
ccaaaaaatg	ccagtag					198

&lt;210&gt; 2471

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (310), (312), (315), (320), (328), (333)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2471

cgccagtcgc	tggtacctcg	gaataaacac	ttatttataa	gaattatgaa	agcaaagaac	60
agtgagaaaa	tcatccgtgg	atatttggag	tttgccggcg	gactgttaat	cagtacggct	120
ttgagcatgg	cactgctcac	aggctttatc	catacgaatg	gaagcgaata	taaactgatg	180
gaatccaaaa	cgcaagaata	cgataagatt	tacgccagac	agattgccct	ggtggataag	240
gtggattcgc	tgtataacta	cctggtgctg	atggtcttca	ccacggggct	ggaaagagcc	300
gctgcaattn	cnaanagecn	ctctattncc	aanccc			336

&lt;210&gt; 2472

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2472

tttgtccgct	tccggatagt	ggggcgcacg	atagaatttg	gacgcaatag	cgtacaccaa	60
cagataggct	acgcaaagtg	ccagcggaac	gaacaggatc	cagtcgacca	agctcagatg	120
agtatcataa	gtcttaagt	aggttatggg	tcgatataat	tgtgtaaatc	ggttcaactg	180
tggttcacca	cagattacac	agaggatcat	ttcggcagag	tcttacagaa	tcctatagaa	240
tctcagagaa	ttccacagga	tttcactttc	tcgtttatgg	atatcccca	agaaaatgat	300
tcctctctgt	gttaa					315

&lt;210&gt; 2473

&lt;211&gt; 3747

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2473

aaaaatcaag	ttcaaaaacc	gaaagtaatg	acttcaactca	aacatcaact	cttttccgga	60
gtattctata	ccgcccttgc	caagtatagc	ggcatagggg	tatcaactcgt	cgtagcgggt	120
gtgctggcac	gtctgatttc	accggacgac	ttcggcgtga	tgcccgtagc	cacggtaatc	180
atcgcttttt	tcaacttggt	tactgacgtg	ggactgtctc	ccgccatcat	ccagcacaag	240
acactgaccg	gagaaaaatc	gtctggcctc	ttctccttca	ccgtctggac	aggcattggg	300
ctggcgctgc	tctttgcccgc	tgccctcgtg	cccatagccg	cctattacga	ccgggagatt	360
ctgcgcccc	tgtgccagct	gctggctgtc	aacctatttt	ttgcttccgc	caccatcgtt	420
cccaatgcgc	tgttctaccg	caataaagag	tttaagttca	tcgccctgcg	gagtttcgtc	480
atacagatag	ccaccggaac	ggctgccgtc	gtggcagccc	tgtgcggagc	cgggctctat	540
gcgctgatca	tcggccccc	cctgtcgggc	atcctgatct	tcgcggctct	catacgccac	600
tatccgcaac	gcctgaagtt	tacactagga	ctggacgtgc	ttcgccgtat	cttttctctac	660
tccgcctacc	agttcctgtt	caacatcctc	aactacttca	gccggaatct	ggacaaaactg	720
ctaataaggca	aatacatggg	catgtctccc	ttgggctact	acgaaaagtc	gtaccgcctg	780
atgatgctgc	cattgcagaa	cattacgcag	gtgatcacc	cggatgatga	ccccatcttc	840
agtactatc	aggatgacct	cgagcgactg	gcttcgggct	acgaacgcat	cgtccgcttc	900
ctgcgcctca	tcgggctacc	gctgagcgtg	ctgctctact	tcacggctgg	cgaagtgaca	960
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tcggtagggc	tgcagattat	cctctcctct	tccggctcca	tctttcaggc	ggcggggcgac	1080
acgaagaact	tatttatgtg	cggactgttc	tcgtccatac	tcaacgtcac	tggcatccta	1140
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accgtcaact	tcgctcagtg	ctactggatg	atgtaccgga	tgacgctgca	ccgcagcttg	1260
cgccatttcg	ccatccaact	gatctcgccc	ctgatgggtc	gcatacctgt	gatagccgta	1320
ctctatccgc	tcagccta	gacagaagga	ggcaacattt	ttctgaccct	gattgtaaaa	1380
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actggcaagg	gcaaaaagca	tcataaacaa	aaacaaacga	tgaaagcact	gtttcttata	1500
ttccacggat	ttgaagaagc	gaacggcatc	agcaagaaaa	tccgctatca	ggtaaaagcg	1560
ctgaaagagt	gcggaatgga	cgtgcacaca	tgttatctga	acgaggaaaa	tggacacaaa	1620

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atacgcatct	caaacggaat	agacttcgat	gccataccgc	aaaagataac	ccggaatgac	2040
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cggattataa	agggaaatggc	agactactac	gccaccacc	cctcctataa	ggtctacttc	2160
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aagatattcg	aacagtcgga	tttcggcatc	ggaagcctgg	caaggcaccg	gagcggaaatc	2340
acaaccatca	agacactcaa	gaaccgggaa	tatgcggccc	ggggactacc	tttcatctac	2400
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actccagtgc	ggatacaggc	gatagtagac	ttctaccaaa	cacaaacatg	ggatcctgcc	2520
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tgtccgggag	gtatggaaag	agtgatttagc	ctaaaggtaa	attatttcac	taagaaattc	2700
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cacccggact	ggacactgcg	catttacggc	gacggattca	gagaagaact	tcaaaaactg	3360
atagatggct	tgggcatatc	ccggtcgtgc	atcctggagc	acaccgtcag	taatatagta	3420
gataaatatt	gtgaaagctc	gatcttcgcc	ctctcgtcca	gatatgaagg	tttcggcatg	3480
gtgctcgtcg	aagcaatggt	atgcggagtt	ccgccagtat	cattcgcgatg	cccctgtggc	3540
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aagctagccg	agaaaatagg	atacctgatc	agccatgaga	atatccgcaa	agagatggga	3660
caacgggccc	gcatccatgt	ggaacggttt	aaaatagacc	atatcgccctc	acaatggaaa	3720
gaacttttta	acagcctgat	atcatga				3747

&lt;210&gt; 2474

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2474

tacgaagaag	tgaataatgc	catcgagaaa	atagggcaag	agatgtatcg	tgagactgag	60
tttctggaaa	aagcaatggc	tatctattta	ttggataata	cttcttttgg	agagcacgga	120
ttcgatttgg	ctaataccga	gctaattgaa	gagggcatta	atgacgggag	aattaaacca	180
ttcccgagag	cgactagaaa	aacaaaagat	taa			213

&lt;210&gt; 2475

&lt;211&gt; 1467

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2475

gttaatggag	ttatatattaat	gacatgtaaa	tatgatagga	taatgaatat	aaaaacactt	60
ttgattatgg	gattagttaa	tatgtttggg	ttaggtgggt	gtgccaatgc	cgaatatagg	120
aaacaagttc	tcaatctgga	tgacttggat	tatggcattg	acgtagtccg	ctattatgct	180
ccggctatgg	aagagagcaa	agacactgta	gaagagcatt	attacgtaaa	cagagatagc	240
gtgaagtttt	atgatacggg	aacggacaaa	cttcttccgg	tcttgattgc	ataccgccat	300

cttgccgggag	tgggtgaagga	acaagccact	ttctgtggac	atagctttac	aaatgtgagc	360
atggctacaa	tggaagacgg	acatttgata	atgggtgcagt	gcgaagtcga	gatgcagcca	420
gccgacctct	cccaactact	ggcagcagcc	gtcaagaaat	acggagagcc	ttacacggaa	480
gaaaaggacc	aatttggcaa	acctgatcct	aaatggcgct	gggaaacaaa	ggacgagtat	540
atccaactga	acgctaaaaa	tatgagcggg	aaggaaacac	taaacataga	aacgacggac	600
aatgtggaag	aacctgtcaa	aataggaaat	cggaaaccct	atgtgaaagt	tgccctatac	660
cgctgggcca	aaaagtacca	tgatttggta	cttgccgaag	aaccctata	cggtttttcg	720
ccgctcaata	aagaagccga	aacgcgttgg	gataacgacc	acataaaaag	tgcgaaattc	780
tatacaccgg	aggaagtga	accattcttc	attacagcac	attatctcga	ctcgctcgaa	840
cattcggttg	atgtatgggg	caaaatcgaa	gcaagtttct	attaccgtat	tccgaacagc	900
aaagtaacag	acgaaaccgg	tataacagat	tccgtaaaaa	tcaaccaaga	gggttgccct	960
ccttgctgga	gctttgggtg	acttgacaga	gattttaaga	acggactgag	taacgcggca	1020
tatatagccc	gccaaatgca	aaaaggcggtg	aagtttaccg	aaataatgga	agacaaagaa	1080
ctgtgcccg	atgtctatta	ttatgggtgaa	gcggaatgg	ggaagaaaaa	gaaagtattc	1140
gggattgtgc	ggtttgaacg	ggatgagaaa	gataatatgg	tgctgagaga	acctgaaaca	1200
gatagagacg	atatacgacg	aagggttctt	ataatcaatg	acaatataaa	agaagagttg	1260
cggaaaagcg	gtctggattt	ggagcataca	acagcgcgtt	tgatgaatgc	tccgggcat	1320
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gggcgttaca	gcttctcaac	tcctaaccat	gaatgggaat	caaacaaat	ttatcggtt	1440
tatgactatc	tatcgacat	aaagtaa				1467

&lt;210&gt; 2476

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2476

ctcaaactctt	ttccggagtt	ttccttttat	tccgctgccg	tagtcccgcga	gcgtgtgatt	60
gtctatcatc	cggcatttgt	gtccattttc	ctcgcttcaga	taacatgtgt	gcacgtccat	120
tccgcactct	ttcagcgctt	ttacctgata	gcggattttc	ttgctgatgc	cgttcgcttc	180
ttcaaataccg	tggaaatataa	gaaacagtgc	tttcatcggt	tgtttttggt	tatgatgctt	240
tttgcccttg	ccagtgatgt	cgtattcacc	ggtcaactgt	atatagcacc	caaataataca	300
gaaaaatata	atgctttttta	caatcagggt	cagaaaaatg	ttgcctcctt	ctgtcattag	360

&lt;210&gt; 2477

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2477

aacatggcat	ttagagcaac	cttaagcttt	gcaggaaaaag	agtttgacgt	gctggattgc	60
acgtacagtc	tcaagcgaga	tgtggattcc	aaaggacgcc	catcttcaaa	catttatggt	120
ggacaaattc	gtctgcatgt	ggaatcgact	gatgatactt	ccattctgga	gaacatgacc	180
aatcagttta	aacctcattc	cggcagcatc	gtcttcaaaa	aaggagatga	agaagccaag	240
atgaagggaac	ttacctggga	aaacggatac	attaccgaat	ttaccgaaaa	catcgacatt	300
gtcggctcgc	agccgatgac	tatcactttt	gtcgtatcgg	ctcaggtaat	caagattggt	360
ggcgacaaat	ttgaacagaa	ttggccgaag	taa			393

&lt;210&gt; 2478

&lt;211&gt; 1836

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2478

aatataaaaat	taaaacgtat	ggcaaatacta	ttcacaaaaag	aaagcattaa	agcccggatg	60
ttcaaacagg	cggcaaccct	atatgacata	cgaaatatag	atggcataga	cccccttatc	120
cgactgctga	ttgaagcctt	gtcgggcaaa	attttcaagc	tgtccggtga	tatgcacgcc	180
attgaaaagcc	gattgtttgga	gaaagtgcgt	tccgccctta	ctccacacac	ggcattgggt	240
gccaaacccg	cccatgctat	tgctgctgcc	cgaccatata	caccgcaagc	tactgtatct	300

```

cccacagacc tgttttctta taaaagcacg gagatagtga agaagtataa gatgaaaaat 360
ctcttcttta ctccgctgca tgaaacccgc ataatcaatg ccgaactgaa gtttctcgtg 420
acggcgcatg aattttgcac aatcactccc gaaggagaac gtgacgccac tgcccgtttt 480
cgttccgatg tgccggtaat gggtcggaaa atcagtatcg ggatgaaaat aggcaacaat 540
gtaactacce tcaacgactt gccgttatat atagatatag cgcttgtagc agataaaaagc 600
agttatctga aattactgcc gtactgccat tgcacgattg ccggtattcc tgtagaaatt 660
aaagggggaa tcgagtacgc cccacacagt tcggtcagtg agaaatacga tcttggcagg 720
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accgcttttt caaaagaaat actggaacag ataaagggtgc agatgaacac ttttatcgta 960
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gaccggctta gggaaatttc cggcacacag gatgaaggta gggccggctg ttattcggtc 1140
agaaggggag gttgcgaacg cttcaatgcg atggatgcc aagattttct gaaccgcctg 1200
acagacctgc tatatgacga aagcatggcc ttctcttcca cagacaaaga cggaatgaaa 1260
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gtcggaggac aggaaatggt gtcgtatgta gtcatagacc aacgttatga caaggatacc 1380
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ttcgccccat gagagagacc ctcccccttc gtaaggcgcc ggatggatat gtaccgatc 1560
atgctgttgt cacagggcag tatatacagc aaagaggata tacgcaattt ctgcatggca 1620
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gaaagcgaag gtttcataag gacgctggac gtgtatctac ggctatcgga ggggatgcaa 1740
ggattagacc gggacgaatt cgtcgttgat ttggacagtg agctcaggcg gttgtctccg 1800
gaaacctata actaccgtgt ttttattaac tcatag 1836

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<210> 2479

<211> 552

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (319)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 2479

```

aatgcgaaat tcaaaacaat gggaaagaaa gctgtatcca aactattttta ttgtacgtct 60
attgcactga cttttgtcct ggccggcatc accattgccc gagcattcgc cggacacata 120
cctcccagac actccactct gatgcctttc atcgggctgg cgctgtcagg actgttattg 180
atcaatcttg tcgccgccat ttactggggg attcgcggga ggttctggat catcattccg 240
ttgatagcca tagctgcaa ctggcaatat ctgggtcgga tcttccaact tcttttacgg 300
tcggaggaaa aagaggcana tacactgaaa atagcgacat acaaggttga cagtttcggg 360
acgaagcagt cgggatattc gtgcaaggag attgcggctt atatgaaaga gcaccgggtg 420
gacattatct gctttcagga gtttgtcggg caaccggtag ttttacttca gacagcatac 480
ggaacgcatt tgcagactgg cagtatgccg tcattccgca agctccggac agcacaccta 540
tcttgcaggt ag 552

```

<210> 2480

<211> 996

<212> DNA

<213> B.fragilis

<400> 2480

```

gagttaaatt ctaaaataat gaataaaga aattttattt ttttaggtag tatattactt 60
ttattgagct gcaaaaatag taaacagcag gaagggtata attctattaa tattattaaa 120
tatattaata tttataatga aaacaacagg attctaactg cacaaggtag tgaatatgac 180
tatctctatt ttggagacaa taaagataaa gagatcttgg cgaatgtaaa taattttaca 240

```



aagacatata	gttatgataa	tgattcttcc	tgctatactg	tagaggaacc	cttgtcggaa	300
tcattgctaa	aaacaatgag	atacactgaa	aataccatag	aagaacttgt	attggaaaat	360
aataaagaca	catttagtta	tactttttct	acctattatg	ataagaataa	gcctaagtat	420
aataaaagta	ttataatatt	aggagatgaa	ccctcttctg	actcaagata	tgaggaatac	480
tactactatg	ataataatgg	aaataatacg	aagaaaatcc	atcatgattt	aaacaccggg	540
caaagagaag	aaacctataa	atttaatgat	acagattata	aagaagctgt	taatcttgtc	600
ccttcttccg	attacaaaca	aaatatcgag	tgttcattga	aacaaactgt	taatgatacc	660
ttaatcactc	ggattacctt	aaacggtgta	cttaatagag	tgatgaagga	atacattgat	720
ggaaaaaaga	aaattaagga	agagttggac	aatgatatga	ctttagtcaa	taaaaaaaca	780
gagtatgaag	aaaacggact	gaaagtaaac	gtcaatcata	ctataagaag	tacaggctac	840
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tacaatggta	ccataacact	tgaaatctca	gaatatgatg	agcaaggaaa	tatagtaaag	960
aaaacaaaaa	aactcagatg	gccatcagat	aaataa			996

&lt;210&gt; 2481

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2481

ccaatattcc	tactgctgc	ctcccgtagg	agtttggacc	gtgtctcagt	tccaatgtgg	60
gggaccttcc	tctcagaacc	cctatccatc	gaaggccttg	tgagccgcta	cctcaccaac	120
aacctaattg	aacgcattcc	catcctttac	cggaatcctt	taataatgaa	accatgcgga	180
atcattatgc	tatcggttat	taatctttct	ttcgaaaggc	tatccccgag	taaagggcag	240
gttgatagc	tggtactcac	ccgtgcgcgc	gtcgccagca	aagaaagcaa	gctttcttcc	300
tga						303

&lt;210&gt; 2482

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2482

cctccaacaa	agttggatga	cattccttca	gaatgccggg	ttgtcccatt	cggaaatctt	60
cggatcaaa	gtcatttgca	cctaccgcaa	gcttatcgca	gcttatcacg	tccttcacgc	120
cctccgagag	ccaaggcatc	cgccatgcgc	ccttatttac	tttcttttat	cgccagggat	180
catttccttt	ga					192

&lt;210&gt; 2483

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2483

tgtagaggtc	ggcagttcaa	ctctgcctgg	gactaccaac	agatagatat	tttatcttgt	60
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&lt;210&gt; 2484

&lt;211&gt; 2004

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2484

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gcaggcgacc	tcaaagccaa	acccgtcgac	gaatatcagg	ggaactgtat	tgaaggcaag	300
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ataaagagaa	tagttgcgga	ataa				2004

&lt;210&gt; 2485

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2485

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ctttga						246

&lt;210&gt; 2486

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2486

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636

<210> 2487  
<211> 984  
<212> DNA  
<213> B.fragilis

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gccgaacagc gcatccggaa atgccgtgat tatctcgacc ggaaaattgc ggcttccacc 180  
gagccgctgt atggtatcac taccggtttc ggttcgttgt gcagtaaaaa catatcgctc 240  
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gtaatgccta ttgtctacga tcgcggatcc ttgggggctt cgggtgatct ggccgcttg 480  
gccaacctct ttttgctttt gattggagtt ggcgatgttt attataaagg taaaaagcgg 540  
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gaaagatgcc atccgggacg gcttttccgg tttggggacc gagataattc caagtgcggc 960  
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<210> 2488  
<211> 930  
<212> DNA  
<213> B.fragilis

<400> 2488  
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cggctctggg tgaaattgct cgattatagc aatgatgaag atcacaaccg actggtagta 180  
acccttatcg gcgagccgga agctctgcgt gacgtgtta tcgaggctat tggagtggct 240  
gtggaattga tagatcttaa tcaccaccgg gggcagcatc cccgcatggg ggccgttgat 300  
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gagataggag agaaggtagc cgggctttat caccttcctg tcttccttta tgagaaatcg 420  
gcgacagccc ctcatcgtga aaatctggca gctgttcgca aaggagagtt cgaaggagtg 480  
gccgagaaga tgaaactgcc cgaatggcat cccgattacg gtccctgccg atgccatcct 540  
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agtactgata atcttgaaat tgcaaccaag atagccaaaa atatccgtca tatcaatggt 660  
ggtttgcgtt atgtcaaagc gatgggggta gaactgaagg aacggaacat taccaggtg 720  
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caagtgcttg aatcacgtat aatggaatag 930

<210> 2489  
<211> 309  
<212> DNA  
<213> B.fragilis

<400> 2489  
agaagaaatc aagatatgaa atcagtatta atcacattcg atcaggctta ttacgaacgt 60  
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ggacgtgggt cgaagaccgg tgatccgcat ttccggcagcc acgctggcc tagtatgtgt 180  
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cggatggaca tgcagacaga acagctcggg ctgcgggctt ttgtcactaa cgtggagcga 300  
agcatttaa 309

<210> 2490  
<211> 228  
<212> DNA  
<213> B.fragilis

<400> 2490  
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ctgaaccagc caagtagcgt gaaggatgaa ggctctatgg gtcgtaaact tcttttatat 120  
aagaatagag tgcagcatgt atgggtgtgtt gtatgtattg agggattat gcaaacgagt 180  
tacagtcgtc ttcaccacgc ggctgtaagt atcgacgagc gatcgtaa 228

<210> 2491  
<211> 303  
<212> DNA  
<213> B.fragilis

<400> 2491  
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aacctaattg aacgcattcc catcctttac cggaatcctt taataatgaa accatgcgga 180  
atcattatgc tatcgggtat taatctttct ttcgaaaggc tatcccgag taaagggcag 240  
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tga 303

<210> 2492  
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<212> DNA  
<213> B.fragilis

<400> 2492  
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tgtccgcagg tggataaagg caggaaggct tgaagccga tgcgtgaacc gggatcattg 180  
ggggatactg tttcggtaaa aattgttttt cccgtagctt tcaaagggtg agggaggaat 240  
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gccattgcag ccctgaaacc cgaactatta ataacttctg ttggaacgaa cgaaagccat 540  
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cacgtacatt atctgcctga aggtatatac cttcaggag aattattata tgaagccatt 900  
attaaagcct ataatagaata tgtttcccat tga 933

<210> 2493  
<211> 663  
<212> DNA  
<213> B.fragilis

<400> 2493  
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 <213> B.fragilis

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agcaccgaca	tgattccgat
ctttataaaa	tcttggaaga
acgggtatcca	tcagtgggtgc
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gcttccggat	gatgtggaga
tgtgttgctg	tcggtaacagg
tcgcgttggtg	aaccggttag
tccccagcgt	gagatccagg
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gtggtgcaga	aacagtcggg
tgccgaagt	tgcaaaagaa
tccgacaaca	ttctcaacac
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aaataa						3066

&lt;210&gt; 2495

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2495

cggaatatag	aaaacaaagg	atacactaag	acagggaata	aagagattcc	caaagaagat	60
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ggcgggtggt	gtactgctct	cggtgggtta	tgtacaggca	caggaggcaa	aggacatcgt	180
gctactgacg	cttga					195

&lt;210&gt; 2496

&lt;211&gt; 228

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2496

ggagaaaata	gagattttta	caggaaacttg	acggaaatta	aacgggggttt	aagcaaaaaa	60
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gcgttaacat	tgttaatgcg	gttggggaaga	cattttatttc	aggggcgga	agaacaaagc	180
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&lt;210&gt; 2497

&lt;211&gt; 1260

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2497

agaatcatga	gtgagaactt	aatttatattc	aatgccaaag	tagtgactcc	gctcggcttt	60
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<210> 2498  
 <211> 1470  
 <212> DNA  
 <213> B.fragilis

<400> 2498  
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<210> 2499  
 <211> 642  
 <212> DNA  
 <213> B.fragilis

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 gactataaga tcagtgcggg gccggacgat tccatgtgca aatacctgaa gtcccgtgtg 240  
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<210> 2500  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2501

&lt;211&gt; 1362

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2501

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&lt;210&gt; 2502

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2502

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cttgagcgct	atctggctgc	atatcgtaaa	gaggttccgt	ttgtaaagga	tgatatcggtg	420
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<210> 2503  
 <211> 1578  
 <212> DNA  
 <213> B.fragilis

<400> 2503

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 <211> 192  
 <212> DNA  
 <213> B.fragilis

<400> 2504

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<210> 2505  
 <211> 594  
 <212> DNA  
 <213> B.fragilis

<400> 2505

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aaagcagacg	aagaactgga	gtctcaattg	aacctatatg	ctttggaaca	atttgacgaa	360
gctgtttcct	ctatttcgga	agtagaaaac	ctgttgagcc	gaacgatgca	aaagctgccc	420

gaacgttgca	gagaaatctt	tttgctcagt	cgcatagaag	gattaaaata	taaagaaata	480
gccgaacgcc	tggatatatc	cgtaaacacc	gttgaaaatc	agatatccat	cgcacttcgc	540
aaactcagat	cagaactcaa	agaatatctt	cctttactgg	tttttatcat	ttaa	594

<210> 2506  
 <211> 234  
 <212> DNA  
 <213> B.fragilis

<400> 2506						
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gggtagattg	tgattaaagc	aagtatgggg	gcagggaatt	ttaaaaagca	agggtgggaa	180
tggaagcagg	aggagcttac	tattaaaccc	cacaggacat	tgcttaaaaa	ctaa	234

<210> 2507  
 <211> 2436  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (2269)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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&lt;210&gt; 2508

&lt;211&gt; 1041

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2508

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gaacattatg	agatttacta	a				1041

&lt;210&gt; 2509

&lt;211&gt; 1146

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2509

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ccggcagcca	atgtaggtaa	agtagacaac	agaggtatcg	acctgaatat	cacacatcgc	360
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tccaccgacg	gaagcgctta	tcctcaaatg	aaaacctttg	tgtttgggtc	taacattaca	1140

ttctaa

1146

&lt;210&gt; 2510

&lt;211&gt; 504

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2510

ttttttttta	tctttgtact	tatggaaaaa	tattatagca	caaactgtcc	gattaatacgc	60
atcacaatta	ttaagaccat	aattgttgcg	atgcttttca	ttatcgccgc	tattatagta	120
tttgccagtg	gaggatattg	gttaggaatt	agcataatat	tactgctgtt	agttatcatg	180
gttgtaacct	atTTTTgtat	tcctcggaaa	attattgtga	ccgatacggg	tattgtgctt	240
tataatcatg	gattttaaaag	aaaaattccc	aagtgcgata	tattgaaagc	aagaagcgtc	300
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tgtgggtatt	atgcttcaaa	aatacacaag	aacctttata	tctatgcttc	tcaaaataag	420
aactggattt	tgattgaaac	tgaaagaaaag	aattatattg	tatcaccgga	aaatctggat	480
ataatagatg	tgattaataa	ataa				504

&lt;210&gt; 2511

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2511

aacgtgatta	tgaaaaagat	aaatacagcc	ctgttttgct	tatttgtatt	gctcttctgt	60
tcgtgcatg	tactgaacaa	agctccactg	gacgaaatag	cggacgactc	cttctgggtc	120
gacgaaacac	tggtgaaata	ttacgtaaac	gatctatata	gcgaaatctc	cgtagacgga	180
ctgcaactac	aagaaaaccg	cagcgacaat	tccgtctcgg	cacagcgtga	taaacaccgt	240
gcaagctggg	ttaagttcaa	ctatgacatg	gtcagtgctt	ccgat		285

&lt;210&gt; 2512

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2512

ctttttccct	ctttcagttg	cacgctttgg	gtggaggtga	tttccgtatt	gttgggcaca	60
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gtgttgccgg	ctaccacatt	ggtcgaagg	ccgatcttcc	atgatgtgga	gtttccccct	240
tgctttacat	atacaccggt	gcaattgggt	attgtattgc	ttggaaatcc	ggtaggactg	300
atggtaattg	tcagtttgca	caacttctga				330

&lt;210&gt; 2513

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2513

agatataaat	cctcaaaaaga	catgaagata	ttactattag	gttcgggcgg	ccgtgaacac	60
gccctggcat	ggaaaatcgc	ccaaagtcgc	aaagtagaga	agctgttcat	tgaccccgcc	120
aatgccggaa	ccggtgaagt	aggtgaaaac	gtgaatatca	aagcaaccga	cttcgccgct	180
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atcgggccgt	cgaagaagg	agccaggctg	gaaggcagta	aggagtctgc	gaaagaattc	360
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gacaaggccg	acgcactggc	acaatgctac	aaagtggccg	acatgattga	cttcaaagac	1260
aagaattatc	gccgcgacat	cggcttcgat	ttataa			1296

&lt;210&gt; 2514

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2514

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aaagtgatgc	cccgcactat	gctgcgttat	tccatagaga	agctcacgga	cgaggagcgg	720
aagttgtata	tggggcgatg	a				741

&lt;210&gt; 2515

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2515

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atctggcaaa	ctcgctag					198

&lt;210&gt; 2516

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2516

actacactgt	tccgttactt	ccttgggttg	gtagtgggta	ggatcggttt	caaagaactg	60
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agtgatatag	aggaaaatcg	tgaaatgtca	aattggacag	cttgtccggt	cagagtatta	180
ttgcacaaga	agaatactat	cttttga				207

&lt;210&gt; 2517

&lt;211&gt; 1845

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2517

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ggaattgttt	caaattcttc	tgagaggccc	ggcatttatc	aatatctgaa	tgcagaggga	120
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caggaagaat	atctaaaaaa	tattgccgag	ataaaagaga	tcctgaaagg	gaatacccgag	660
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&lt;210&gt; 2518

&lt;211&gt; 867

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2518

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catacggag	cagcgacttc	ctccccctc	ctctccatca	gaggactctc	cgccgcctat	120
gacggacgca	cggtgctcca	cgatgtcgat	ctggagggtct	acgagcacga	tttctctggc	180
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cagtacaact	cgatcgaccg	ctccttcccc	atctcgggtc	tcgaggtagt	cctctcggga	360
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agcgtcaaca	ccgaatggct	ggaacggaac	ttcaactgcc	cgatcgagct	gctgggacac	780
ggcacactgc	ctcaccgggt	gctgggcgag	cattgtcatt	gccacgagaa	gagttccgac	840
acaccccatc	cccaaaccga	taaataa				867

&lt;210&gt; 2519

&lt;211&gt; 1593

&lt;212&gt; DNA

## &lt;213&gt; B.fragilis

&lt;400&gt; 2519

cggaactcgc	ctataagcat	ttggggcgca	gtctctacaa	tagtcagaaa	acactgttta	60
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aaagatacag	ccttgtagtg	gttgagtagt	atggttggca	ggttcctgaa	ctatctgttg	180
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cctgtgatta	accgaattat	aaagaagaaa	tag			1593

&lt;210&gt; 2520

&lt;211&gt; 1356

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2520

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gcagccattt taatcagtta cttattttttc ttttaa

1356

&lt;210&gt; 2521

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2521

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gccctcggat	atatgaggag	caatgtatgg	ctgaccacgg	cttcaatgtt	cgccggaaaa	420
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&lt;210&gt; 2522

&lt;211&gt; 1226

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2522

gaagaccagc	cgttttgttg	tgcctggcct	gtaacgaagc	gggcagaaca	gtatctgtca	60
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&lt;210&gt; 2523

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2523

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&lt;210&gt; 2524

&lt;211&gt; 738

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 2524

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&lt;210&gt; 2525

&lt;211&gt; 3360

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 2525

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&lt;210&gt; 2526

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2526

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&lt;210&gt; 2527

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2527

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&lt;210&gt; 2528

&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2528

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&lt;210&gt; 2529

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2529

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<210> 2530  
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 <212> DNA  
 <213> B.fragilis

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 gataaggggtc ctggagaacg tgaaattatg gaagctgcag agaataaggc actagctatg 420  
 agaaagcagt aa 432

<210> 2531  
 <211> 363  
 <212> DNA  
 <213> B.fragilis

<400> 2531  
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 gatctgattc cgggtggagc tacctaccgt tctgccgaga atatatccgg cctgcaatgg 180  
 tggggtgacc aatgtatcaa accgggaata gaagcagtgt tcatgataaa ccctaaaaac 240  
 ggaaaagaaa caccgctcac caccgcgaac atagtaaaca aggcgttgga agccggaaat 300  
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<210> 2532  
 <211> 1230  
 <212> DNA  
 <213> B.fragilis

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 agagccgaag acttgatatg tcaattcagt gagagaatag ataaggagaa aggtgggtacg 180  
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<210> 2533

<211> 1218  
 <212> DNA  
 <213> B.fragilis

<400> 2533

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 <212> DNA  
 <213> B.fragilis

<400> 2534

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<400> 2535

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&lt;210&gt; 2536

&lt;211&gt; 1884

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2536

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&lt;210&gt; 2537

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2537

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 aaattttaaga caaaaaatta ttttataagg atagatgaac tgaaaaacgg catgtaccgg 660  
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&lt;210&gt; 2541

&lt;211&gt; 1635

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2541

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&lt;210&gt; 2542

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2542

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&lt;210&gt; 2543

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



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 ttgagttgtg cattagggaa agaagtgaac acaggagaat tcggagccga catgaaagta 420  
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<210> 2544  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2547

&lt;211&gt; 1365

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2547

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1365

<210> 2548

<211> 1701

<212> DNA

<213> B.fragilis

<400> 2548

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<210> 2549

<211> 939

<212> DNA

<213> B.fragilis

<400> 2549

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939

&lt;210&gt; 2550

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2550

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&lt;210&gt; 2551

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2551

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&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2552

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&lt;210&gt; 2553

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2553

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&lt;210&gt; 2554

&lt;211&gt; 1065

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2554

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&lt;210&gt; 2555

&lt;211&gt; 411

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2555

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&lt;211&gt; 3006

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2556

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<210> 2559

<400> 2559

<210> 2560

<212> DNA

<400> 2560

<210> 2561

<211> 279

<212> DNA

<213> B.fragilis

<400> 2561

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<210> 2562

<211> 930



&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2562

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&lt;210&gt; 2563

&lt;211&gt; 618

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2563

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&lt;210&gt; 2564

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2564

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&lt;210&gt; 2565

&lt;211&gt; 2460

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2565

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&lt;210&gt; 2566

&lt;211&gt; 1446

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2566

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&lt;210&gt; 2567

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2567

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&lt;210&gt; 2568

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2568

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&lt;210&gt; 2569

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2569

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&lt;210&gt; 2570

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2570

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&lt;210&gt; 2571

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2571

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&lt;210&gt; 2572

&lt;211&gt; 504

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2572

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&lt;210&gt; 2573

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2573

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acagtgggtg	act ttgtaca	ctgcgccagc	atcgacgaac	taaaaaacta	catccccgta	180
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gagatcatcc	gccaaagaagg	cttcagcaac	ataatggcac	tgatttcggg	agagaacgaa	420
gccagcatcc	gcctgttcga	aaaatgcggt	ttcgaatggt	gcgcaaacat	ccggcaggta	480
gcggagaagt	tccggcaaaaa	actggatttg	aggatgtatc	agaaaattat	ttcagacaat	540
tcacatctca	ctccctga					558

&lt;210&gt; 2574

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2574

cacagtgtta	aaacttggtc	tttggatgtg	aataaaaagt	tctttaaatg	caaaagactt	60
gttattttcg	cacaagaacc	tgacaacctg	caaaaggcgt	taacaatggt	aattgaagaa	120
aggtataagg	atgaagatac	cggttcaaac	ggcgtaaatt	cacttcctaa	acttgagtta	180
taa						183

&lt;210&gt; 2575

&lt;211&gt; 1113

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2575

ctcaaaacta	aatcattaat	cgatatgaaa	ccttatttgt	tattgacccc	cggaccactt	60
actacctcag	agactgtaaa	ggaaaccatg	atgaccgact	ggtgtacatg	ggatgaagac	120
tataatttgc	acattgtcga	agcattgcgt	aaagagctgg	tcggcattgc	taccgcgaat	180
acggaagagt	atacatctgt	tcttttgcaa	ggaagcggaa	cctattgtgt	agaagccgtg	240
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gaccggatgg	ggaatattgc	cgaatattat	catatcgact	acgagctcct	tgcttttgat	360
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aaagcggata	ctttccgtat	cggtaatatc	ggagatgtac	atccggagga	ctttgcccgt	1080
ctggtggagg	tggttagaga	gactgagtac	taa			1113

&lt;210&gt; 2576

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2576

gttttcgcta	aaagcagtaa	tcattcacct	ccgaagcccg	gttcttcgac	ccgatatcat	60
caggagataa	atgattatct	cctgatgata	tcggaagtta	ctcctattct	tttccaaaga	120
agtgccaaat	tgtaaatcta	tactaaatct	gctcttgaca	aaaagaaggc	aagaacagag	180
atgttgatc	tttgtttctt	tgtaaaacta				210

<210> 2577  
 <211> 1167  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (348), (460)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 gtgctcgatg cactgactta tgccggaaat cttggaacga ttgccaacga cattgataac 180  
 gaacgggtgct tttttgtgaa aggtgacatt tgcgatcgtg aactggccga ccgccttttt 240  
 ggtgagtaca agtttgacta tgtagtgaat tttgctgctg aaagccatgt agaccgtagc 300  
 attgagaatc cgcaactttt cttgatgacc aatattctgg gaacacanaa cctggttgat 360  
 gccgcacgtc gcgcacgggt aaccggtaaa gatgaatacg gatatacctac ctggcgtaaa 420  
 ggggtacggt atcatcaggt atctaccgat gaggtttacn gttcgttggg tgccgaaagc 480  
 tattttcatg aaacgactcc actctgtccg catagcccg acagtgcac gaaaaacccat 540  
 gccgatatgg tggtaatggc ttatcacgat acctataaga tgccgggtgac tatcactcgc 600  
 tgttcaaaca actacgggtc gtatcatttt ccggagaaac tgattccgct gattatcaag 660  
 aatattcttg aaggtaagaa acttcctgtg tacggagacg gtagcaatgt gcgcgactgg 720  
 ctgtacgtgg aagatcattg caaggctatc gacctggtag ttcgtgaagg tgtggaagga 780  
 gaagtataca atgtgggagg acataacgaa aagactaatc ttgagattgt aaaattaaca 840  
 atcgcaacga ttcacgcctc gatggcagaa catcccgaat atcgtgaggt gttgaagaaa 900  
 aaagagaaaa atgccgatgg tgaaatttca atcgactgga taaacgaaga ttttaattacg 960  
 tttgtcaagg atcgtctggg gcacgaccag cgctacgcca tcgatccgac aaagatcact 1020  
 aatgccttgg gttggtatcc cgaaacgaaa tttgaagtgc gcattgtgaa aacaatcgaa 1080  
 tggatatctga ataatcagga atgggtggaa gaagtaacca gtggtgatta tcagaaatat 1140  
 tacgaacgga tgtatagcaa acgttga 1167

<210> 2578  
 <211> 1371  
 <212> DNA  
 <213> B.fragilis

<400> 2578  
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 cgggtagaaa agttttgttt attctttgat ccttggttca cactatttaa atttaagcca 180  
 aagaaaagtg agacagaata tgcgtgctgg tggttacctt tggggggata tgtcaaaata 240  
 gccggaatga ttgacgaatc gatggatacc gagcaaatga agcaaccgga acagccgtgg 300  
 gaatttcggt ctaaacctgc gtggcagcgc ctggttgatta tgggtgggagg tgtgttggtc 360  
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 attcccgtac agaaggcccc attgggtatg gactttaatg aaacagcaa agcgggtggga 480  
 tttcaggacg gagatatitt gttgtctgcc gatggagtcg attttgtacg ctacgatccc 540  
 gatattgctc gccagatagc tgatgcccgg gaggtaacgg tgttgcgtga gggtaagaag 600  
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 gccgaattcc gtttccccta tgtagtcat agtgtgatgg tcaattcacc tgcagccatg 720  
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 ttgactacgg attcagcttt caaaatagga gtacgggtca atccatatac ggatcaactt 960  
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 catcagttct ggtatatgac ggcattcttg tctatcatcc ttgcttttat gaatattctg 1200  
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cgcaaacgga gtgataaatt tatggaatac gcacaaatgg cgggtaigat tttgttgttc 1320  
 ggccttttga tttgggctaa cttcaatgat atattgagat tcttcttctg a 1371

<210> 2579

<211> 666

<212> DNA

<213> B.fragilis

<400> 2579

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gacaacaaga	actcttccga	ctccaccatc	gtgaccgaat	acactgacat	agtggatagc	180
agtacggttg	acaccgacta	ccaaagcagc	agtttcgact	tcggcaatga	atttccgttc	240
aacatagaca	aagggggccat	taacggaggc	atactgacag	gattggtagt	tatcatactg	300
atattcggat	tccccttctt	tatcgtattc	atcgcttctt	acttccggta	taaaaaccgg	360
aaagcaaagt	acagactgat	ggaacaggca	ctggcaaccg	gacaacctct	gccggaaggt	420
atcttcaaag	acactctgcc	gcaggactac	cggacgaaag	gtatcaagaa	catctgtacc	480
ggaatcggac	tgttcatctt	cctctgggcc	atcacagacg	aattcagcat	aggatgcac	540
ggattgctgg	tgatgttcac	cggaatcggg	cagtggatca	tctcacgcaa	tcaacagcat	600
gaacggccgg	aagacccttt	cacacgcctt	acacacaaag	acgaaacttt	gaatgaacaa	660
aaataa						666

<210> 2580

<211> 738

<212> DNA

<213> B.fragilis

<400> 2580

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ctacatatgg	agacttctac	cgccgtttgt	tcggtagcag	taagtgaaga	cgggcagaat	120
attttttgta	aagaagacct	taaggggcct	tcacatgccg	tttcgttggg	agtatttgtg	180
gatgaagcgt	tgtctttcat	cgatagtcac	gccattcctt	tgatgcggt	agccgtcagt	240
tgtggtcccg	gatcgtatac	cgggcttcgc	attggcggtt	cgatggcaaa	gggtatttgt	300
tacggacgta	atgtcccgtt	gatcgggtatc	ccgacattgg	aagtgttgag	tgtacctgtg	360
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gatatcgtgg	acgagaattc	ttatcttgaa	tatctggaac	agcatcctgt	ctatttcttt	540
ggaaatggag	ccgcaaagtg	ccgtgaaaag	attacgcacc	ccaatgcgca	ttttatagat	600
gatcttcac	cgttggcaca	gatgatgttc	ccgcttgacg	aaaagaccgt	tgcaatcaac	660
gactataaag	atgtggccta	ttttgagcct	ttctatctga	aagagtattgt	ggcttcgcaa	720
cccaagaagt	tacttttaa					738

<210> 2581

<211> 918

<212> DNA

<213> B.fragilis

<400> 2581

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ctgctatctc	aaaatcggga	gccgcttgga	gggcttccag	cacataacga	ccaatattgc	120
cataacctac	gatggctgct	cttacttttt	tcactttttt	attggttttg	tttaacacat	180
ttctttatct	cggttgcaaa	attagtcatt	ttctttgttt	tcaggctctc	taagggtgtt	240
aaagttagtt	tttgttattc	aaggttcgtg	aagcacaata	tttattatct	ttgcgttctg	300
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gcagttatcg	attgtaacgg	attaggatat	gccgttaata	tatcactcaa	cacttattct	420
gccattcagg	gtaagagcag	ttgtaaaactc	tatatctacg	aagccatccg	cgaagatgct	480
tacgttttat	atggctttgc	cgacaagcag	gaacgggaac	ttttcctgct	gctgatttcc	540
gtttcgggta	ttggaggaaa	cacggcccgt	atgattcttt	ctgctctttc	accggccgaa	600
ctggtgaatg	tgatcagtac	cgaaaatgcc	aatatgctga	agacggtgaa	aggtatcgga	660

ctgaagaccg	cacagcgtgt	cattgtcgat	ttgaaagata	aaattaaaac	cggtgccatg	720
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caggaagagg	ccatcgctgc	attgaccatg	ctcggatttg	ccgctgcacc	ttcacagaag	840
gcggtgcttg	ccatattgaa	agaagaaccc	gatgctccgg	tggagaaaagt	cattaagctg	900
gctttaaaaa	gactttga					918

&lt;210&gt; 2582

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2582

tcagtctgca	aagggtacaac	ttttcgctct	tcactttcca	ctcttcactc	taaatttgta	60
tttttgccct	ctataacaaa	gaacaacaaa	atgaagaaac	tgattgtcct	gacatgtaca	120
ttgtcactac	tgacagcttg	tggtgacagc	atcgaaaaga	aagcgggtga	aaagcttgcc	180
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gaccgtgaag	cactcgtcgg	tacttacgag	ttggccaaat	tactttcatc	catacgtcag	840
attcagcaag	agaaagaaga	agccaacctg	aaaatcgaat	ttgtgaaaag	aaaaatggaa	900
cagaaagccc	aagaagaggc	tgcggaaaaa	taa			933

&lt;210&gt; 2583

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2583

catatggcaa	agactaaaac	cggaatcttc	agcggctctt	tcaacccgat	ccacatcgga	60
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gaaagagaat	tccagttgat	tataggatct	gacaattgga	tggatattga	ccgatggttc	360
gaatcggaac	gtatcgcttc	agaaaataag	atactcgttt	atccccgtcc	gggattctct	420
gtagataagt	cacagttacc	cccgaacgta	cacgtagcag	attctcccat	attogaaatc	480
agttctacct	tcatcagaga	agccctggct	accggaaaag	atatacgtta	tttccttcat	540
ccggctgtat	ataaaagaat	tatacaacag	accgacagca	ttgattcttc	ccactcctgc	600
catacctga						609

&lt;210&gt; 2584

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2584

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aaggagaagc	aacaacgtaa	agaggaaacg	caaagtaacg	gtccgagttc	ttttgaggat	120
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gatgcggatt	gtggcgaaaa	gtattttcttc	catatctctt	ctgcccctgc	gacaattgcg	360



gaaggtgata gactgacatt tgaaatagag cgcggtatgc gtggaatgaa cgctgtacga 420  
 atatcaatag tgactgaata g 441

<210> 2585

<211> 1317

<212> DNA

<213> B.fragilis

<400> 2585

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gaagaagtaa	cagtgaataa	cattccggac	atcctggacg	tcaataacct	gattcagtta	180
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gcgaatgtcg	atctggccta	tttggaagt	gacaacttcc	tgaagaagtg	ttccagcctg	300
cggggatctg	tgatgctgat	cggtcctatg	gtcgcccggt	tgggtaaagc	catgatttca	360
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<210> 2586

<211> 465

<212> DNA

<213> B.fragilis

<400> 2586

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ccttacatag	atgtactggg	ggacggggcg	ttcaaacagg	aactttattc	accgcatctg	420
gaattcagag	gaagcagtaa	tcagcggatt	atcaaactga	aatag		465

<210> 2587

<211> 633

<212> DNA

<213> B.fragilis

<400> 2587

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cgtgtgcgtg	tgacaggagg	catctttgcc	ggcgtcgagg	gtgagtttat	ccgtgtgaaa	540
aacgatcggc	gtgtgatggg	ttccatccag	ggtgtcatgg	ccgttgccac	cacctacatc	600
catccctctc	taatcgagcc	gctcgatctt	taa			633

&lt;210&gt; 2588

&lt;211&gt; 1425

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2588

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cctttgggat	ttgtgaagaa	catcggcaat	cgcgccaaca	atctttatcc	gcaggagtgg	1380
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&lt;210&gt; 2589

&lt;211&gt; 3099

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2589

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&lt;210&gt; 2590

&lt;211&gt; 420

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2590

aaagcaaacc	tattatataa	aatggatatt	gaagaaatta	aagattttctg	tcccccttatt	60
cttgtggccg	aagatgatga	tagcaatttc	aaattgatta	aagctattat	cggttaagaaa	120
tgtgacattc	tgtgggcgaa	gaacggtgaa	gaaatgttga	acttataaccg	tgaacacact	180
caagatgcac	atgctatcct	tatggatatt	aaaatgccga	ttatgaacgg	attggaagca	240
accgggatta	ttcgtgaaga	aggagcttcc	ctccctatta	ttatgcagac	tgcttatgct	300
ttcagctcag	accgggagaa	tgccatgcaa	gccggtgcat	ccgaagtatt	ggtgaagccc	360
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&lt;210&gt; 2591

&lt;211&gt; 1452

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2591

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tgttgcatat	tgatattcag	ttgtgcagcc	tgttcgctca	atatcccta	cgagaatcag	120

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&lt;210&gt; 2592

&lt;211&gt; 1290

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2592

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gacatctgga	ataaaaccac	caagcaaaac	atcgtggggc	aagaatattt	tccgaaccac	720
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&lt;210&gt; 2593

&lt;211&gt; 1347

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2593

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acacccgatt	atgccgagga	tgtgtcagtc	gctaattctg	atttggtgct	ggcagggcat	1140
acacatggcg	ggcaagtccg	gattttggga	tatgctccca	ttattccttc	acactatggc	1200
agccgttttc	tgacaggatt	gaagtataac	tccgctaaga	ttccgatgat	tgtgaccaat	1260
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acactgcata	gtctccgaaa	tgaataa				1347

&lt;210&gt; 2594

&lt;211&gt; 1449

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2594

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cagatctcag	agacggctga	tcggttgagg	ttggagtggt	atgtggtagg	cggttatgtc	120
cgtgacattt	ttctgcaacg	tccttctaaa	gatatagatg	tagtagtggt	ggggagtggc	180
attgcatggt	ccgaagcgtt	gggaaaaacg	ttgggacgcg	gtgcgcatgt	ctctgttttt	240
aagaattttc	gtacggccca	ggtgaagtgt	caagggtacg	aggtggagtt	tgtaggtgcc	300
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gaggttttag						1449

&lt;210&gt; 2595

&lt;211&gt; 618

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2595

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gaccgtgatg	gcatgaatt	gctgattcct	gcacaagaga	aattaattgc	cggtatcgat	540
cagaagcaca	aatcattac	agtcgatttg	cccgaaggtc	tgctgtcttt	ggacgagtgc	600
gatgatgaag	aaagttaa					618

&lt;210&gt; 2596

&lt;211&gt; 297

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2596

aatcataaag	aactttttta	tggaagtgtc	acaaaaataa	acaaaatcgg	acttcttcgg	60
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&lt;210&gt; 2597

&lt;211&gt; 1215

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2597

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&lt;210&gt; 2598

&lt;211&gt; 531

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2598

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&lt;210&gt; 2599

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2599

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taa						903

&lt;210&gt; 2600

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2600

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ggagaaccgg	gagcataa					318

&lt;210&gt; 2601

&lt;211&gt; 888

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2601

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&lt;210&gt; 2602

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2602

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&lt;210&gt; 2603

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2603

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 <212> DNA  
 <213> B.fragilis

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 aaaagaaaac ttgccaccca atttgaagaa gaaccttttt cgtatgtgtt cggtttgccgc 180  
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 <212> DNA  
 <213> B.fragilis

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<210> 2606  
 <211> 1689  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2609

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2609

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&lt;210&gt; 2610

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2610

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&lt;210&gt; 2611

&lt;211&gt; 1122

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2611

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&lt;210&gt; 2612

&lt;211&gt; 2868

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2612

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&lt;210&gt; 2613

&lt;211&gt; 2163

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2613

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gactacttca	cogtcacggc	aaactatcat	gaatgcaggc	tggcgcacag	catagcagca	240
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&lt;210&gt; 2614

&lt;211&gt; 2766

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2614

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&lt;210&gt; 2615

&lt;211&gt; 2103

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2615

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<210> 2616

<211> 363

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (11)

<223> Identity of nucleotide sequences at the above locations are unknown.

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taa						363

<210> 2617

<211> 1134

<212> DNA

<213> B.fragilis

<400> 2617

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&lt;210&gt; 2618

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2618

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&lt;210&gt; 2619

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2619

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<213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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<210> 2622  
 <211> 318  
 <212> DNA  
 <213> B.fragilis

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<210> 2623  
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 <212> DNA  
 <213> B.fragilis

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 tcgacaatag atgagtataa agataaaatc tctgataaaa gttttaatgt aaatgggatg 480  
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<210> 2624  
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 <212> DNA  
 <213> B.fragilis

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&lt;211&gt; 1422

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2625

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&lt;210&gt; 2626

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2626

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&lt;210&gt; 2627

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2627

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gatacggaaa	aagaatgtac	ggccaaaaac	ataatggcag	tgaaaataaa	ctttcgtccg	360
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&lt;210&gt; 2628

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2628

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aataataatc	agagaagaaa	attctga				627

&lt;210&gt; 2629

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2629

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&lt;210&gt; 2630

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2630

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&lt;210&gt; 2631

&lt;211&gt; 1026

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2631

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tcctga						1026

&lt;210&gt; 2632

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2632

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ggtag						906

&lt;210&gt; 2633

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2633

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tag						723

&lt;210&gt; 2634

&lt;211&gt; 1107

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2634

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gatagaatca	gggataataa	atgttga				1107

<210> 2635  
 <211> 432  
 <212> DNA  
 <213> B.fragilis

<400> 2635  
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 aatgaaatta tggctacagc tttcagaatt tcaaatttag gagaaaatga tttgaaagaa 360  
 atagcagctt tcaaagatat cgtaaagtct tatctcaaaa tggaacgcat tgcccaaaat 420  
 gaagccgaat aa 432

<210> 2636  
 <211> 2328  
 <212> DNA  
 <213> B.fragilis

<400> 2636  
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 cttgccgtat tcgacttgat ggtcggtgta agtaacgatg cggtaaattt cctcaattcg 180  
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2328

&lt;210&gt; 2637

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2637

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&lt;210&gt; 2638

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2638

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&lt;210&gt; 2639

&lt;211&gt; 1131

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2639

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&lt;210&gt; 2640

&lt;211&gt; 378

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2640

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&lt;210&gt; 2641

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2641

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&lt;210&gt; 2642

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2642

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agatatgggc	tctga					195

&lt;210&gt; 2643

&lt;211&gt; 456

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2643

ggtacggatt	atgctccatc	cggtcagttt	gagaaaatgt	ttaatactga	tttaggagca	60
------------	------------	------------	------------	------------	------------	----

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&lt;210&gt; 2644

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2644

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agaattgtgt	cggctgctta	g				621

&lt;210&gt; 2645

&lt;211&gt; 804

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2645

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&lt;210&gt; 2646

&lt;211&gt; 1623

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2646

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taa						1623

&lt;210&gt; 2647

&lt;211&gt; 1617

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2647

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&lt;210&gt; 2648

&lt;211&gt; 183

<212> DNA  
<213> B.fragilis

<400> 2648

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cagtacggag	acgaaataaa	tcatacaaaag	aatgaaatct	gcgtaaagaa	tggaattatt	180
taa						183

<210> 2649

<211> 1914

<212> DNA

<213> B.fragilis

<400> 2649

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<210> 2650

<211> 669

<212> DNA

<213> B.fragilis

<400> 2650

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aatgaacact	cttatattgt	tcccggattg	ggtgatgcgg	gtgatcttgc	ttttggcgag	660
aaagaataa						669

&lt;210&gt; 2651

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2651

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&lt;210&gt; 2652

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2652

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tga						183

&lt;210&gt; 2653

&lt;211&gt; 1248

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2653

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ttcagcttat	ctcagttgat	ggataagtat	cgtatggagc	gcaatttgcg	ttatgtcgat	360
gcttttattg	tgcttgagat	agagaggctt	cggcaggagg	ggcgttctgg	tactgccggc	420
ctgtacctta	gcggtattga	ctctttacga	cgttttttgc	gtggtcagaa	gattacgttt	480
cgcgagttga	cttattgttt	tcttacggat	tatattcatt	ttctacgtat	gcgcgggtatc	540
tctgaaaata	ctgtgaatat	gtatatctgc	aatctccgcg	ctgtctataa	caaagcccaa	600

aagcagggga	taaatatggg	ttgtgagtct	cccttcgagg	agcttaagct	tcaaactcag	660
gagactgcga	agcgtgcggt	gtgtaagcat	gatattgccc	gtatagtatc	tggtgatctt	720
tcctccgaac	ctttattgga	tcggtgcccgg	gatcttttta	tgtttagttt	ctatgcccgt	780
ggtagtcctt	ttgtcgatat	tgtctttctt	aaacatgact	cgataattaa	tggaatcatt	840
tattatgagc	gtaataaaac	ggggcaacgc	atgcaagtcc	gtgtgattcc	tcctctcgca	900
gctctgattg	agaagtatcg	gagttcttat	ccgtatgtat	tgccgtatat	aacgtctttt	960
tcggaccgta	cgtcttatat	gcagtatcgt	tatgcattgg	gtaatgttaa	ccgcctactc	1020
aaacggttgg	gcaggcgatt	gcacctgcct	cttgtagtga	ctacctatgt	tgcccggccat	1080
agctgggcga	ctattgccaa	agaggaggga	ttttctatcg	catctatcag	cgaagggtctt	1140
gggcatactt	ctgaggcaac	gacccagatt	tatcttcagt	cttttaatag	tgaggtcatt	1200
gataagatta	acgagcaggt	cgtagcctcc	ataggaaggc	atatctga		1248

&lt;210&gt; 2654

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2654

gcagaggggg	aaagaaaaga	gaacgaaggt	aactgtttta	cagtgcacctg	cctgatcttt	60
atatcttcat	ccgtatTTTT	togtatctcc	agactcgccct	ttgaagcaat	gcgctccaac	120
tcaaccgaga	acgctgaatt	ccagggttaat	ctttcattcca	cactgacttc	ccctgtgacc	180
ggagttgaag	aggctgcatt	tcttatccgg	atatccagat	gcttgcatatc	cacaaactct	240
gccgtatcta	caggtagagt	aaccggtaaca	cttttaattt	ctgataaaga	tggtctctccg	300
gttaatgcgg	aattcatgcc	cgtcgtttca	ttaccgatca	caaacaaatc	gtaa	354

&lt;210&gt; 2655

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2655

tttcaaaaac	taaaaatgaa	actacattac	aaaaaagagc	acatctcatg	caccaattat	60
aaaagtgaat	cgtatgaggg	attcgggatt	ggaacgctta	caagcggcag	taacttcaat	120
agtcagacct	tatctgttaa	aactaatttc	ctgatcttca	ttcttgaagg	tgaagtggag	180
attattccca	aagaaggcaa	aataaaaagg	gtaatagccc	aggaattctt	tttcatctcg	240
gcattatcca	cttacgagat	acaggtagca	gtccccggac	gctacattta	tatgagcttc	300
ctatacaatg	acattaaact	atgtgagaaa	cacatgttag	agagctatct	aaaagaagtg	360
agagaagcat	ctgaagaggt	cggaaatacta	tgggtacgac	acccgctgaa	cttatttctg	420
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cgcgtgaaca	atcgtgagga	attagcacag	gcaatgggaa	tgagtattac	cgatcttgcc	660
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aagaaaatta	tttatcggtt	ggcgcaaccc	ggagccagtg	taaaagagat	tgtgtatgaa	780
ttcggcttct	cttcagcggc	cagtttcaat	aaatactgca	aaaagaattt	cggttaattcc	840
ccaagagagt	tggtcaggca	gctcaaagac	aagcatattg	ataatcagaa	tcttaaaata	900
taa						903

&lt;210&gt; 2656

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (83),(131),(164),(239),(248)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2656

atgtgtatgc	gttcgactcc	ctcggcattt	atcggcaaaa	atgtttcggg	acaaaggagc	60
acatttgaag	aaatggctac	cgnaatgcct	attgaccttc	ctgaggggaa	atggaccttt	120
ttatgcttgg	naggttaagg	tggatgattac	gagattggca	ttnttagaca	ggtatttcct	180
cacaagttta	gtccggctgt	ctctccgggg	attaccactc	tttcggattt	tcgtgtaana	240
gcgtattntg	agcagaaaga	aaatttggaa	tactcacttg	gtgagttggt	ctttgggcgc	300
ctggactcca	tggagatcac	agctgataac	ggtgggacag	gtgtagtaga	cttaatgaaa	360
aacacgaata	agatagaagt	ccgtgtgaag	ggaatcgctg	atgggttcac	agcccgtatc	420
acctctgata	acggacgctt	taactcagaa	aatgttacgc	cggccgatgc	cggtagcatt	480
atatatgttc	cttattatag	cgcactctca	acggatgata	cccgtgtttt	ccagtttgat	540
gtattgcgcc	tgtatactga	cgggcatctg	ttccttaaat	tgctgaatcc	cgatggaaca	600
gatgttattc	cgggattttac	aaaagatttg	atcaatgcta	ttatgtcctc	tcccgcatat	660
catactcagg	aagatttgga	tagagaggat	acctatctga	ttgaattggt	gctttctaaa	720
gacggagtca	ttgtctcttt	gcgggtaaat	ggctgggaaa	ctgtcagtag	tactccggag	780
gtctga						786

&lt;210&gt; 2657

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (144)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2657

aatcgacagc	ggacgctttt	gtattgcaaa	cctacaacaa	tgctctcccc	tctatcacga	60
tatccgcacg	gaggagcaat	ggaccttgaa	ttcgtcatgc	gccagactgc	ccgaatgagc	120
cagagatcta	tgaaccctga	cttntcatgg	ggattcacca	gtttggaccc	ttcgccgttg	180
aacctgttaa	tcaaaaaatc	caagggtttt	ccgggtttgc	ccgttccgtt	taaaaaacat	240
tggttag						246

&lt;210&gt; 2658

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2658

agtatagtca	gagtggaaaa	aagattttct	aagatatttt	caatagtcgt	ttacgcattc	60
ttagctttat	ggatgggagc	atgtaagagt	gaacctgtcc	gcttgccgga	actgagcgga	120
caccggggag	cggactgtat	tgctccggag	aatacgtctg	cttcggcgga	ttcatgtata	180
aagtataaga	ttgacttcat	ggaatgtgat	atttgtatca	gtaaggacag	cgtattctat	240
ttattgcatg	attctacctt	ggatcgtacg	acgaatggaa	ccgggctgat	tagagagtgg	300
ctttcggcag	acatcgatac	attggatgca	ggttcatggg	ttggcgaaaa	gttcagcgga	360
cagtgtgttc	cccggttgga	cgtttttattg	cggaaggcta	aacagaacgg	tctgaagctg	420
acgctcgatt	atcgtacggg	agacttttga	cagttgctgg	atctgggttcg	cagggaagga	480
atgttagaga	attgtacatt	tactttctgg	tcggacaagg	aggcaaaagc	ttttcgccaa	540
gtggctcctg	aaattcggac	attacaggcg	tatgtaggag	gtggtgccga	acttgataag	600
gttatagctg	aaataaatcc	caatattgcg	gttattcgga	tcgattcact	ggataagctc	660
ctggtggaac	ggtgccataa	gaaaggattg	aagggtgctt	cattggcact	gggtactgac	720
gatgtagaag	agtctgaccg	gaaagctatt	gaactcgggg	tggatgtgct	ggccacggac	780
agaccggagc	tgtttgtaaa	gaaatacaga	ccagagcata	catggacaaa	atga	834

&lt;210&gt; 2659

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2659

ttgtattctg	ggaaattaaa	taattccatt	ctttacgcaa	atttcattct	ttgtatgatt	60
tatttcgtct	ccgtactggg	gaattgtatc	gttcgggtga	ttttttcttt	tgatctcgaa	120
gcgagaggta	cttatcagaa	tgataattat	gtctttgaag	agcaaattga	tgatatcttt	180
caggaatag						189

&lt;210&gt; 2660

&lt;211&gt; 2397

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2660

ccaagcaagg	gcaaagcagg	gaaaatgagc	gtcaattata	actttaacta	taactggagc	60
caacctgcc	atatgcccaa	taagttggat	gccacgatg	cagccttcta	caagaacatg	120
agtatgacca	atgacggatt	ggcaccggcc	tatacggacg	atgaactgga	actggtccgc	180
aacggatcag	atccacgcag	atatccta	acggactggc	aaaaactctg	tttgaagaac	240
tccgcaccgg	aaatgcaaca	taccctgact	gtcaccggtg	gtagcgaaaa	gataaaagca	300
tatacctctt	tgggggttcta	cgatcagaag	tactctata	agttcgatgt	aaacagtttc	360
aaacgctaca	acttccgcac	aaatatcgta	gcagatttca	aagaaatagg	tttgaaagta	420
acttccagca	tcaagcttta	caaaacggac	ttaagatcgc	ctaagccaa	atcgggagac	480
agctattatc	acacctgggg	acacatccag	aataaagccc	cctgggaaat	agcatacaat	540
ccgaacggac	aaatattcaa	cacacgggat	aaccatttga	tggagatctc	ccccgacgcc	600
ggatacacta	aaaacgaaaa	cctcagtgcc	atagcaaacc	tgcactgga	gtggagcgta	660
ccttatgtac	cgggcctacg	attgaaagca	ctgggtaact	accgtatcaa	caacgacaag	720
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ttactgactt	tcagcaaagc	gaataagttc	gacatcgacc	cggaaatcgg	cgacggcaac	2340
ctctacacct	atccggtttc	aagagtatac	tccatcagtg	tcaacgtagg	attctaa	2397

&lt;210&gt; 2661

&lt;211&gt; 1740

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2661

tctcatttct	tattctgttg	taagatgata	catcaaaaaa	agttcgtcac	tatatcgata	60
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gggtatcgt	tctataaaat	gttagggatg	ctctgtctct	gtgtgctggt	atattcatgc	120
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			gagctggagc	gaatagcttc	tgaagagtaa	1740

&lt;210&gt; 2662

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2662

ataatagtta	tggcggtttta	gcgatctgtg	tttctctttc	tggttggttg	ttcttctacg	60
tttttagggg	tcgaaatagc	tcgtagggcag	gtttattctt	tgcaaaactaa	tggtttgggt	120
tggggtaacta	ccaatatgaa	tcttgagttc	gggctgaagt	tttcccatcg	ttggaccttc	180
cactttctct	ttcaatataa	tcccttctct	tttgagatg	cagggttcg	caatttgtct	240
gcttctcccg	gagtgcgtaa	ttggatccgt	gaatcttatg	ggcgttctta	tttctctgga	300
attcacggag	tgagcaccat	gtataatgtc	gtgggagttt	ttggcgataa	atatcgttac	360
gaagggttacg	gtttttggagg	tggactttct	ttggggtaaca	atcgctctct	ttctctctcat	420
tggaaatttag	agttttgaggc	aggtcttggg	gtcttgtgga	cccattatga	taaatatggt	480
tgtaaggcat	gcgggcagaa	agtggtctact	tttaaggggag	cacgtctgat	tccgaccaag	540
ttggcagtgta	atatagtcta	tttattctaa				570

&lt;210&gt; 2663

&lt;211&gt; 1179

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2663

ttgcataaaa	tgagcttatt	aaagaaaaag	tatatgagat	gtgtaaaaagg	aatatatata	60
ttcttttttgc	tactgtcttt	tatctcttgt	gaactggaag	ataaaatagg	aagatatact	120
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gtggaaatga	atcgccgtgc	cgattttaagt	gatacttcat	catccggttt	agagcataca	300
gggggagtg	ttaaaactcta	tcttcgtccg	ggtgattacg	atttgtttgt	gatcggtaat	360
gaaacgcagc	gcatgaattc	cgcattaacc	ggagagccat	ctttatcaga	aattaaaagt	420

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cggataagaa	atgcagcctc	ttcaactccg	gtcacagggg	aagtcagtgt	ggatgaagga	540
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gagatacgaa	aaaatacggg	tgaagatata	aagatcaggg	aggtcactgt	taaacagtta	660
ccttcggttct	cttttctttc	cccctctgct	tatccgcttt	ccggcgggct	tacggttact	720
gatacgcgtt	cgttttctac	acctgtttct	atcgccggag	agaaagatgt	tccctcagga	780
tatccgtata	catctgttgt	acagggaaaag	aatagcttta	tcttgccgga	gtacatttgg	840
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aatgtaagt	tagaaccatg	gcagaatac	actgcttatg	atacgattcc	cggagcaaag	1080
atcggtttct	cacgggtcaa	tgctcggttat	tcgtatgctt	ctgagagtgt	tgttacgttt	1140
acaacaaaa	acttgctctc	tgtatctgtc	agcctatag			1179

&lt;210&gt; 2664

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2664

tatatgatata	ttgtcgggaa	gaaaaacagc	acttcgtttt	ttctacttat	ttcactcatt	60
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tggttcacgga	tgtttatggt	acagccaagt	tatcttttgc	atacgggtga	aggcgatcgt	180
tttggaagaag	ctgtccacca	tatagatgtg	tatgcgttcg	actccctcgg	catttatcgg	240
caaaaatggt	tcgggacaaa	ggagcacatt	tga			273

&lt;210&gt; 2665

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2665

tccgggtatt	cgggcatata	cagaatagaa	acaatgcgct	tcccttctct	gataattgaa	60
aaggcgtctt	actcttttgc	gcatatcatt	ggggggcctt	tcgtattcat	aaagaccgaa	120
tgtggagtaa	tcttggattt	tgacagtact	cctttttttac	aggatgctat	catgcagaat	180
cggatttttc	cgctcagata	a				201

&lt;210&gt; 2666

&lt;211&gt; 1332

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2666

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&lt;210&gt; 2667

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2667

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&lt;210&gt; 2668

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2668

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&lt;210&gt; 2669

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2669

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&lt;210&gt; 2670

&lt;211&gt; 1290

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2670

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&lt;210&gt; 2671

&lt;211&gt; 1284

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2671

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&lt;210&gt; 2672

&lt;211&gt; 675

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2672

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&lt;210&gt; 2673

&lt;211&gt; 1206

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2673

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 <213> B.fragilis

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 2681

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2681

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&lt;210&gt; 2682

&lt;211&gt; 1599

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2682

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&lt;210&gt; 2683

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2683

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&lt;210&gt; 2684

&lt;211&gt; 1359

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2684

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&lt;210&gt; 2685

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2685

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&lt;210&gt; 2686

&lt;211&gt; 237

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2686

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&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2690

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&lt;210&gt; 2691

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2691

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<210> 2692

<211> 789

<212> DNA

<213> B.fragilis

<400> 2692

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<211> 1062

<212> DNA

<213> B.fragilis

<400> 2693

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<210> 2694

<211> 1323

<212> DNA

<213> B.fragilis

<400> 2694

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&lt;211&gt; 504

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2695

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&lt;210&gt; 2696

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2696

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&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2697

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&lt;210&gt; 2698

&lt;211&gt; 543

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2698

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&lt;210&gt; 2699

&lt;211&gt; 1842

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2699

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&lt;211&gt; 3537

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2700

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&lt;211&gt; 1971

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2701

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&lt;210&gt; 2702

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2702

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&lt;210&gt; 2703

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2703

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&lt;210&gt; 2704

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2704

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&lt;210&gt; 2705

&lt;211&gt; 1128

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2705

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&lt;210&gt; 2706

&lt;211&gt; 1332

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2706

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&lt;210&gt; 2707

&lt;211&gt; 3756

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2707

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&lt;210&gt; 2708

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2708

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&lt;210&gt; 2709

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2709

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<212> DNA  
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<213> B.fragilis

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&lt;210&gt; 2715

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2715

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&lt;210&gt; 2716

&lt;211&gt; 1902

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2716

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&lt;210&gt; 2717

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 <213> B.fragilis

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 <212> DNA  
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taa

1923

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 <213> B.fragilis



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<210> 2722  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2725

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&lt;210&gt; 2726

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2726

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&lt;210&gt; 2727

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2727

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&lt;210&gt; 2728

&lt;211&gt; 297

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2728

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tcaaaagcat	caaccaacag	aatgcatccg	tcggccatgt	tgagcacacg	ctctacttcg	240
ccaccgaagt	cgctgtgtcc	cggagtatca	ataatattaa	tcttagttcc	gttgtaa	297

&lt;210&gt; 2729

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2729

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caagaaacaa	tacaaccatg	taagaagcac	catcttcaca	tcatagggaa	taaaacttgt	180
gacttggaat	tggaggatgt	atatactctc	tgtaaaatca	tacaggctgt	tgttgcagaa	240
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agcctgtttg	tctattaa					318

&lt;210&gt; 2730

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2730

cgcttaatga	acgaaaaaga	agcaattatt	aaactaaaga	cctgcaatga	taaagccgcc	60
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acctctgcgg	tcgatgtgga	agaaatcggt	caagaagttt	ttattaaaat	ttggggagaat	180
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&lt;210&gt; 2731

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2731

gaaataatga	aacttaatta	tcttttaatt	ctgattatat	gtgtactatt	actctgtttt	60
aatttatata	tatttaaaca	gaatagtgtc	tctgatagaa	tgcaggatac	tattatacga	120
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aatagcgtat	atgttcctca	aatagatgaa	agtaacgtaa	caaaaacata	ttttcaccgg	600
attttacaat	attattttga	tattccttaa				630

&lt;210&gt; 2732

&lt;211&gt; 876

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2732

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&lt;210&gt; 2733

&lt;211&gt; 1515

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2733

agaaaaatga	aaattaaaat	cttattttttt	atttgcattg	tatttatcatc	aattgatata	60
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&lt;210&gt; 2734

&lt;211&gt; 1401

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2734

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&lt;210&gt; 2735

&lt;211&gt; 360

<212> DNA  
<213> B.fragilis

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<210> 2736  
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<212> DNA  
<213> B.fragilis

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aacatcaaag aactactgga ccagcttccc taa 1113

<210> 2737  
<211> 1068  
<212> DNA  
<213> B.fragilis

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acggagctga ctctaaagt agcggatggt ctctattcaa agggagcatt cgtcttcttt 180  
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gacaacctat ttactttctc caatggaggc tggcgtatcc tgatcggtg atggctcgta 420  
gagcttgtca ttgtaggctt attattggca aatcgttcca ttcagaataa cctgaaactg 480  
caacaggagg ccgcaaaact gcaaacagag aacgacactg cacgttatgc ggctttacaa 540  
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<210> 2738  
 <211> 1143  
 <212> DNA  
 <213> B.fragilis

<400> 2738  
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 gaccaacaat taaaacgtat acaaataaaa gaatttgaga ttgaaaatga aatcgttttc 180  
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 ataattattaa ggcaattaga aaaaagtatg ctgttaattg aatttaattc agaatactta 1020  
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<210> 2739  
 <211> 1155  
 <212> DNA  
 <213> B.fragilis

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2740

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 <212> DNA  
 <213> B.fragilis

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&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2743

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&lt;210&gt; 2744

&lt;211&gt; 1179

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2744

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&lt;210&gt; 2745

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2745

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&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2746

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&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2747

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&lt;210&gt; 2748

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2748

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atgaaaaaag	atggaaaact	gcttcttatg	ggattcggta	cattttcggg	gaaacgaaa	180
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&lt;210&gt; 2749

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2749

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&lt;210&gt; 2750

&lt;211&gt; 1260

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2750

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&lt;210&gt; 2751

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2751

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atattcgttt	attcaaggat	tttgggttaa	tttgtaaggc	cttctttcac	gtttcttttg	180
agaggtgggg	agtga					195

&lt;210&gt; 2752

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2752

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&lt;210&gt; 2753

&lt;211&gt; 1461

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2753

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 <212> DNA  
 <213> B.fragilis

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 aaactaacia atacccttaa cgggtccgcta atcagttgag atctgaaggc actaaaagat 180  
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 cgggacgaag cactttattgg cggctggata cgaacaaccg tcggagaaaa atatatttta 300  
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 aatatcgcat cttatggaca aggcccgat gaatatctaa acacttatgc cgaacaactg 420  
 gacgaagcca ataatcgcat ctatatacta ccttggcaaa gcagcaagat attggtattc 480  
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 <211> 585  
 <212> DNA  
 <213> B.fragilis

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 aagaaagaac acttcacttt tgcaacaagt gtaggaacag gtattgacat gagcgagcca 180  
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 gcaaaatttt taatcataaa acctagaaag ttcactcctt atatagaatg tggcggttga 360  
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 gtagaatatt ctatttgtaa aagtaagaag ttattcttgg ctttaggata tgaatcccag 480  
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 <212> DNA  
 <213> B.fragilis

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<210> 2757  
 <211> 1545  
 <212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2757

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&lt;210&gt; 2758

&lt;211&gt; 1215

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2758

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&lt;210&gt; 2759

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 <212> DNA  
 <213> B.fragilis

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<210> 2760  
 <211> 669  
 <212> DNA  
 <213> B.fragilis

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 aagccatcgg gtgacactgc ctctgccgaa acggaagaag tgacagagga aatgactacc 180  
 tccgcactga tcatgagcat ctttcaacag ctccggttgc aaccggaagt gaatgaagaa 240  
 aatcatatca gcttcaagta tcaggagagc gatitccttg tcgcagccga agacgggtctc 300  
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 gcgctggacg aggatgaaaa aacatttggg atccacagta aatgccatat gctcttcgct 480  
 cccgaagaag aggagccgga aaaaagtctt accgacctgc tggacagttt tttactacc 540  
 cacaatacta ttaaagaaaa cctgaaacaa ttgggtaacg gaatgccgga tatggaaaag 600  
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<210> 2761  
 <211> 264  
 <212> DNA  
 <213> B.fragilis

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 aaggagcaag aaaagaatga catacatata gtaacctcta ataattatgc ttatgaagta 180  
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<210> 2762  
 <211> 267  
 <212> DNA



&lt;213&gt; B.fragilis

&lt;400&gt; 2762

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&lt;210&gt; 2763

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2763

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&lt;210&gt; 2764

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2764

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&lt;210&gt; 2765

&lt;211&gt; 1041

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2765

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&lt;210&gt; 2766

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2766

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&lt;210&gt; 2767

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2767

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&lt;210&gt; 2768

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2768

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&lt;210&gt; 2769

&lt;211&gt; 1113

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2769

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&lt;210&gt; 2770

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2770

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&lt;210&gt; 2771

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2771

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&lt;210&gt; 2772

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2772

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&lt;210&gt; 2773

&lt;211&gt; 1614

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2773

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&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2776

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&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2777

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&lt;210&gt; 2780

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2780

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aataaatga						369

&lt;210&gt; 2781

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2781

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 <212> DNA  
 <213> B.fragilis

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 ctcgaaatca aaaaaagaaa tcccggaaac aaaatatgca cgatgatcca caactgtccc 360  
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 gtggtcagcc atcaaaaccg ttcggcatac gacacgctcg acgaagtggg actgctgtca 540  
 cccgcttata taccogaatt caagaaactt ataggcaaaa aagacgcatg gaagtatatct 600  
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 cccgacaaca attatgaaca atatgcagaa accattctac ggttggcaca aaatgacaca 1080  
 ctccgctgcc agatagccta caaagctcaa aagcggaaaa acagatatga catagaacag 1140  
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<210> 2783  
 <211> 498  
 <212> DNA  
 <213> B.fragilis

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 ataagaagta aatataaact atatttgcaa ataataacct ttaataaaaa tagtatgaa 180  
 caaaccttat ccaaagctgt agtaactata attatagcat gcacagcatt gtacgcctgg 240  
 aatcataagc aaccgggtttt aaccaatgta cagttacaaa atctggaagc aatagccgcc 300  
 ggtgaagaag gggcatgtat tagatggata gaacaaacgt gttactatag tttctcagag 360  
 gaacatgata atgaaccaca ttatgagtgc aatggttcga gtggacaagc aggaatgaca 420  
 tcttgccggc taataaataa taaaagcca acatttggct atgtaaaagg cacttgtcta 480  
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<210> 2784  
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 <212> DNA  
 <213> B.fragilis

<400> 2784  
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 cttcataaat atttggata tagtataaaa gaagattgct ttgtcagtga tattcgctat 480  
 gaacctcatc atcattcgat tgttgcatac ccagatatcc tttactttgt gtctgggtat 540  
 tttcctgctg atgctgggtg ttataatctc tatcgggttg atcttagaaa ttcgagtatg 600



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acttaa						1206

&lt;210&gt; 2785

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2785

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ggggaaaaat	gcgcttaa					258

&lt;210&gt; 2786

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2786

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aataagcagc	cccatgtgat	gaaacaccga	tggtcgaaaa	agttattgat	acatctgctc	360
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&lt;210&gt; 2787

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2787

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aatgttactg	ccatccggat	cttactacta	acgttctact	atctttattg	taaaatccaa	180
aaagtatcct	atttaacatt	ttggtatttc	tcaactccaa	cattcctaaa	tataaacact	240
attaacaga	accggataga	aaaccggaac	gaaaagacaa	aaccttaa		288

<210> 2788  
 <211> 921  
 <212> DNA  
 <213> B.fragilis

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 aacagaatga tgaaagaata a 921

<210> 2789  
 <211> 300  
 <212> DNA  
 <213> B.fragilis

<400> 2789  
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 agtgtcaatc ctccaatgga aaataaatca tggaaagatt acatgataga tgatttgaag 180  
 cttctatttg attgtgaggc aatctatctc attgataatt ggcagtcttc taaggagca 240  
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<210> 2790  
 <211> 1725  
 <212> DNA  
 <213> B.fragilis

<400> 2790  
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 ttactcaaga agtctgtaga aatggaaggt atttctacag acagtatgct attttatctt 180  
 caacaaatac agtcccccaa tcacctgaat gacaaacaac gggcagaata ctgctttcaa 240  
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&lt;210&gt; 2791

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2791

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taa						963

&lt;210&gt; 2792

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2792

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tacgggaaaa	taaaagaata	tttccatgaa	aaccgcgatgt	atgatgaaaa	catgcggctg	480
gtcagtaccg	gaaccggctt	ttatctttaa	caatggctga	cagcgaaaat	acgtaaatac	540
tgctacgcac	gcattaccgg	aacgttgaat	tactcgaccg	ctgcatacga	tattcttctt	600
tcctacggag	tgaagcagga	gcaaatacat	gtcacttaca	actctacgga	cacagatgcc	660
ttactgaagg	agaaagaagc	cgtactcacc	tgcctccccc	ttcttctctc	ttcttccaaa	720
agagcgctac	acatcggccg	attagtgaag	tggaaaaggg	tggatctgct	gatcgatgca	780
tttaciaaagg	ttattgccag	tcattccggac	gcggaaactgg	tagtggtagg	cgatggaccg	840
gagctggata	acctgaaaaa	acaggcagcc	gacctgaatc	tgacagaaca	ggttcgattc	900
atcgggtcgag	tatacagtc	caaagaactg	ggagcctata	tgaatgaatc	gactgtctat	960

gtactcgcgg	gcatgggagg	attatccatc	aatgatgcc	tgacctacgg	actgcccgtg	1020
gtttgttcgg	tatgcgacag	caccgaacgt	gacctggtaa	cggacggagt	gaacggactt	1080
ttcttcaaag	aaggcaatgc	cgacagcttg	agcgacaagc	tcaacaaact	gtttgcctct	1140
cccgaacgtt	gtgcctctat	gggacgtgag	tcggaacgaa	tcattccgca	gaaaatcaac	1200
attgaaacgg	tcagcgaacg	ttatttgcaa	gctttccgaa	cttttatgca	gtaa	1254

&lt;210&gt; 2793

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2793

acaaaaagaa	ttatggctaa	agaaagtgt	aaaatcctgc	aaggaaagct	cgatgtaaaa	60
agtttgattg	atcagctgaa	tgctgcatta	tctgaagaat	ggttggcata	ctatcaatat	120
tgggtaggtg	cattggtagt	ggaagggtg	atgcgcgctg	atgtacaagg	ggaattcgaa	180
gaacatgctg	aagaggagcg	tcattcacgca	caattgattg	ctgaccgaat	catagaattg	240
gaaggagttc	cggtagctga	tccgaaaaaa	tggtttgaac	tggctcgttg	taaatacgat	300
tctccaacag	cattcgattc	tgtagcctg	ttaaatacaga	acgtctcttc	cgaacggttc	360
gctattctcc	gttatcagga	gattgctaac	tttacaacag	gtaaagacta	tactacatgc	420
gacatcgcaa	agcatatttt	agctgaagaa	gaagagcatg	aacaagacct	acaggattat	480
ctgactgaca	ttgccagaat	gaaagaatcg	tttcttaaga	aataa		525

&lt;210&gt; 2794

&lt;211&gt; 612

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2794

attataacct	tttaccggga	aaatacattc	aacattatgg	atacaagcaa	aatcgtagga	60
gaaaaaatta	aatcactccg	tgagaacaaa	ggaatctcaa	tagaagaact	tgccgaacgc	120
tcaggattgg	ccattgaaca	aatagaacgt	atcgaaaaca	atattgactt	gccttcattg	180
gctccactta	tcaaaatagc	ccgcgtattg	gggtgtacgtc	tgggcacttt	cctcgacgac	240
caggacgaaa	cagggtccgg	agtctcacgc	aagatggaag	ctacagacac	gatcagcttc	300
tcaaacaacg	ccatccattc	gcgcaaacac	atgcagtatc	attcactgtc	caagtcaaaa	360
gccgaccgcc	atatggagcc	gttcatcctc	gatgtagccc	ctacacaaga	cagtgtattt	420
gtactttctt	ctcacgaagg	agaagaattc	atcatggtca	tgggaagggt	catggaaatc	480
agttacggaa	aaagcactta	cctgctcgaa	gaagggtgaca	gtatctacta	tgattccatc	540
gtcccccatc	acgttcacgc	ttatgaagga	caagccgcca	aaatcctggc	agtaatctat	600
acacccattt	aa					612

&lt;210&gt; 2795

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2795

tgctttctga	tgaattatgc	aagcatttta	gtcaaaaaac	tgactctttc	ccgtatgtct	60
cagaacttgt	atgttcgttt	aggattctta	ggaaaccaac	cttttttcac	cctctcttct	120
tgctcaaaga	cttctttgat	gggtccagaaa	gaagagaaag	cgaatacgcc	caataaagac	180
gaaacgagta	tattgtctgt	gctcaacgaa	gcagctactc	ccgcgatacc	taatatacgg	240
aaaatccacc	agcatttcgt	tccccagtaa				270

&lt;210&gt; 2796

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2796

aagcctatga	ttgttatgaa	taatttttta	gtgtttgata	caataaagat	cgtgacatgt	60
------------	------------	------------	------------	------------	------------	----

ggtactttatc	ttaaaatatc	cgataaatca	gtctttacaa	ccgatgttga	tttgttggat	120
ggaagaacaa	taaaatcagt	aacattttaat	tctcagcgga	atagaagcat	tgtcccattt	180
gaattgtata	tccacgccaa	tctattgtcg	aataaaatgt	gcattgagtt	ctcttctaaa	240
atactgtggg	aagattatcc	taaattaata	tcttctgaaa	catttgctca	gtgtttgcgg	300
aatatagaga	aaactggaat	ctgtacattg	gatattgacc	gaatcatgga	ggattgctat	360
gttaccaaat	tacatgtcac	taaagatatt	gaattagagc	ttacgccagc	gatattgaat	420
tgtctgaatc	tctgtacggg	caacttcggg	cgatataatt	gggaacggta	taaaactgct	480
atcctgtttt	ccaaaaatgt	aaaatcatca	aatagcaaag	aagcaatcag	catctatgat	540
aaagggatag	aaattgtaca	aactaaaaat	aaaggattct	tgggactggg	agaaaaacgca	600
gataaaattg	tggagtattt	tgctggaaaa	acccgttttg	aggttaaata	tgaaaaatag	660
agtaagataa	aaaaagagct	aggaatcaag	gataccagtc	tgaaatcagt	gtttggggta	720
aagaagaata	tagtccttac	tcagtttgat	aaaatattca	cggaaagaac	catttcaacc	780
gatgtgagaa	tagaaacatt	ttcggagtat	gggatatgga	atatcgtttg	taatcataat	840
ggggatctta	aagctattga	acaagagata	aaagatttgg	gtatttatgc	caaggggtcg	900
agagccggtt	tggggaggac	aatgaaaaag	ataaaagaaa	tagctcagat	atggggtaat	960
agggaaatga	aaacgggatgt	cgttcttgaa	aaaataaggc	ttctgttaag	gggataa	1017

&lt;210&gt; 2797

&lt;211&gt; 1683

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2797

tcagcaatga	tcgctctaca	cattactaaa	aacatgcaac	tatacgaaag	aacactcgga	60
caatggcttg	aacattgggc	cgaaacaaca	ccggacaaag	aatatatattgt	atactccgac	120
cgcaacttgc	gcttcacctg	gaagcaattc	aacaagcggg	tagacgatat	ggcaaaagga	180
ttgattgcca	tcggagtgga	aagaggtagc	cacgtcggaa	tctgggcagc	aaacgtaccg	240
gactggctta	ccttattata	tgctgcgca	aagatagggtg	cagtctacgt	aacggtaaac	300
accaactata	aacaagccga	actggaatac	ttgtgcgaga	actcggatat	gcatacgttc	360
tgcattgtca	acggcgaaaa	agacagcgac	tttgtacaga	tgacctacac	catgcttccg	420
gaactgaaaa	cctgcgaaacg	aggacatctg	aaaagcgagc	gttttcctta	tatgaagaac	480
gtaatctacg	taggacagga	gaaacatcgc	ggaatgtaca	acacacagga	gatcctgttg	540
ctaggcgata	acatagaaga	caccgagctc	aacgaactca	agtcgcagggt	cgattgccac	600
gatgtggtta	acatgcaata	tacatcagga	acaaccggat	ttcccaaagg	ggttatgctg	660
acacattaca	atatcagcaa	taatggtttc	ctgaccggag	aacacatgaa	attcacgggc	720
aatgataaac	tctgctgttg	tgttccattg	ttccactgct	tcgggtgtagt	gctggccacc	780
atgaactgtc	tgactcatgg	ttgtactcaa	gtgatgggtg	aacgttttga	cccgtctgac	840
gtattagcct	ctatccataa	agagaaatgt	acagcacttt	atggagtacc	cactatgttt	900
attgccgaac	tgaaccatcc	gatgttcgat	atgttcgata	tgtcagagcct	ccgcaccggg	960
atcatggccg	gctcactctg	cccggtagaa	ttgatgaagc	aagtgggaaga	gaaaatgtat	1020
atgaagggtta	ccagtgtata	cggactgaca	gaagcagccc	ccggaatgac	tgctacacgc	1080
attgacgatc	cgtttgacgt	acgtttgtaac	accgtagggc	gtgactttga	atttacggag	1140
gtaaaagtgc	tcaatcctga	aactggtgaa	gaatgcccg	tcggcgtaga	gggggaaatg	1200
tgcaaccggg	gatataacac	catgaaagga	tattacaaga	atccacaagc	tacggctgaa	1260
gtgatagaca	aaaacaattt	cctacactca	ggagacttgg	gaatcaagga	cgaagatggg	1320
aattatcgta	tcacaggacg	tatcaaagat	atgatcatcc	gtggtggaga	gaatatctat	1380
ccccgtgaga	tagaggaatt	cctctataag	ctcgacggag	tgaaggacgt	acaggtatcg	1440
ggcatcccat	ctaaaaaata	tggagaggca	gtaggggctt	tcatcatttt	gcacgaagga	1500
gtaaccatgc	aggcttcgga	cgtacaagac	ttctgccgga	ataaaatctc	ccgctacaaa	1560
attcctaaat	acattttctt	tattgacgaa	tttcccatga	ccgggagcgg	taagatacaa	1620
aaattcaaac	tgaaggattt	aggactgaag	ctctgtgagg	agcaagggtat	ccagattata	1680
taa						1683

&lt;210&gt; 2798

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2798

aagcaaaaga	tatcaccaga	tatcgtgata	tcatcaaaga	gctcggcttg	cgtaagtaat	60
cacttactgc	gaacaaaatt	taaaagccgt	ttcctctcta	tggaggaaac	ggctttttatt	120
ttttatcttt	ctcccttgct	tggatataaa	atttcattaa	ttttgcagca	aaacgaatta	180
aattataacc	ttttaccggg	aaaatacatt	caacattatg	gatacaagca	aaatcgtagg	240
agaaaaaatt	aa					252

&lt;210&gt; 2799

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2799

gatatgaaga	taagtgtatt	attagctgct	ctcctgttgc	tattttcttg	cacggataaa	60
gacagtaagc	agagtcagga	cttaattgtc	aagacagcac	aagcagtttc	ggcctctggg	120
atcaagacaa	cggagttccc	gtttatcgca	caaccttttc	gtacctctga	gctatcgttt	180
cgtgtcggag	gccctattga	tcgtttggat	gtatatgccg	gtaaccatta	caaacaaggc	240
agtattattg	ctgaaataga	cccgcgtgat	ttccatattc	gcaaagaacg	ggctgaagcc	300
atctatcacc	aagctaaagc	tgaatttgaa	cggatagaga	agctgtatga	gaagaataat	360
gttttcggcg	gtacatatga	aaagactaag	gcggattata	ctactgccaa	aactgctttc	420
gatacggctt	ccaatgaact	gggagacact	cgtctgacag	ctccttttga	tggttatgtg	480
ggagaagttt	atatagaaaa	ataccaggat	gtgaagccag	ctcagcctgt	tatatccttt	540
attgacataa	atcggttgaa	gatagagatt	tatgttactc	agaatattgc	gtttgcctca	600
cacccacacag	atagtgtccg	gatctatttt	gatgccagc	ccgataagta	ttataaggca	660
cagattgtgg	aagtatcgaa	ggggacaacc	cgcaataatc	tttcttattt	actaacggct	720
gttttaccta	ataaagaagg	gaaattattg	gcgggtatgt	cgggaaaagc	aatccttgat	780
gctcccggaa	caacggatct	gacaggtgtt	tccattcccc	aaacggcatt	atgttatcgt	840
ccctcggaag	gtgaatatgt	gtgggttatt	gatacgaata	cccgaacaag	gaatcgacgg	900
acagtgaaaa	aaggaaatct	gcttcccggt	ggctatgtta	ccataaccga	aggattgagg	960
gccagtgaaa	cggtagctac	gagcggactt	cgttttttat	cggatggtat	gaaagtggaa	1020
atctctacta	agacaaactc	attatga				1047

&lt;210&gt; 2800

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2800

ccttacggga	tgggtccggc	tgattcacgc	agaattcctc	gtgctccgcg	ctactcagga	60
taccactacg	cttcggttac	cttagaatac	cgggctatca	ccgtctatgg	cacgactttc	120
cagtcgtttc	ttctcaataa	ctgtcttgcg	agagcgtggt	cctacaaccc	cacacatgcc	180
gtaacatggg	tggtttgggc	taatccccgt	tcgctcgcca	ctactagggg	aatcattatt	240
tattttcttt	tcttgcagg	actaagatgt	ttcagttccc	tgcgttag		288

&lt;210&gt; 2801

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2801

gacaagaact	tacaaggctt	tttctttttg	ggagcccaag	cgggtgcccc	ctcggatatt	60
cttgcattac	tccctcatat	acagcatttt	atataatgat	tttgcattta	tttttgcgt	120
agaaataaac	tctatcagta	tgcacctacg	cagatgtata	tcagttgcgt	attgggctcc	180
gatggagcca	ccactaccca	acaaagagag	ggggcaatag	ccttgcttta	ctcgactccc	240
accttaatag	agcaacaggc	ttgccacaag	attgctatct	ttttcactta	g	291

&lt;210&gt; 2802

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2802

caggattgtg	ttatgaggat	acaaattatt	aatgggtccca	atattaatct	tttgggcaag	60
cgtgaacctt	ctatatatgg	aagcgttaca	tttgaagagt	atgttggtga	acttcgtaaa	120
aaatatcccg	atgtggaact	gggatatttc	cagtcgaatg	ttgaagggga	aatcatagat	180
attattcagc	aaaccggatt	cgatgtggat	gggatcatat	tgaacgcagg	agcttataca	240
cacacttcca	ttgcttttgc	ggacgctatc	cgctccgtaa	cctctcctgt	aattgaagtt	300
catatatcca	atgttcatgc	ccgtgagcag	ttccgccatg	tatctatgat	tgcttgtgct	360
tgtaaagggtg	ttatttgtgg	atgttgattg	aactcatatc	gtctggcact	cgaagcttta	420
ttagataaat	ag					432

&lt;210&gt; 2803

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2803

aataattacg	tagaaaaatt	tatggaaaca	acgagacaaa	acaagatata	acgtctgtta	60
cagaaagaac	tcagttagat	ttttctgttg	cagactaaag	ctatgcccgg	tgtactggta	120
tcagtaagtg	ctgtacgtat	cagtcgccgac	atgagtatag	ctcgtgtata	tcttagtatc	180
ttcccttctg	aaaagagtga	agaaatggta	aagaatatca	ataataatat	gaagtccatt	240
cgtttcgaac	tcggtactcg	tgttcgtcat	cagttacgta	tcattcctga	attgaagttt	300
ttcgtggatg	attcgttggg	ctacattgaa	aagatagatg	ctttgttgaa	gtga	354

&lt;210&gt; 2804

&lt;211&gt; 1764

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1492)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2804

cagatatttt	ttataagtat	gagactacat	gtactatacac	tcacatgoct	gctgcttaca	60
gtaggaggca	cagggcgggt	cgcagcccaa	aagccacaaa	actatccgta	cgggtgttct	120
tccgaaccct	gggagggaat	tttcggaaat	catcggggcg	tactgcaaata	agagaagccg	180
gcacaaatcg	cgaacctcga	cttccaatgg	cggcggtccg	acaaagatgc	aggacacaga	240
cgattttctta	tcacccacgc	tgcaacggga	gataccatcc	ggaatatccg	ccggatagag	300
gtgaacgcag	aacactgccg	tttgacgttc	gggtccgggtg	aacaaaaagg	cacttactac	360
ttctactacc	tcccctacca	agtgcacaaag	ggatacggat	tctacagtgg	cggatacctt	420
ccgaaagaaa	acgaaccgga	tgcagcctgg	cagggtcaag	gcgggtcaac	cctgaaaagc	480
actcggggcca	aagtggtcag	agtagagtgc	cggcaggctt	tcgacagtgt	ttaccgcatg	540
gaagttgccc	caacggccc	ggagaaagag	aactacatca	accggcacaa	agcctccctc	600
tacctctttg	ccgaagatcg	cagggtcccc	atccggatgc	gcagcaacct	ccctaccaa	660
tggtctggcag	acaaacaggg	aaaactgttt	cgggggagaag	cagcccccaa	tgaatactat	720
actttccaga	tcgggctttg	ggcagccgtg	aaccaagcag	acaagattgc	ttaccgggct	780
tcttccctga	agtgcggccg	ggaaataata	ccggcaacag	ccattacctg	ttttaatgtc	840
gaaggtaccg	atccttacgg	aaaagcgttc	aaaaaagaag	taaacgtccc	caaaggagag	900
gtacaggctc	tctggttcgg	aatagatata	cccagcgggc	agaaggaagg	catctataca	960
ggcaccatca	ccctcagcga	tgccgacgga	gcacaaagct	cgatccccct	gagtatacgg	1020
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agatggctta	actcgacatt	gggcatagcc	gatacaccta	ccgcacccta	cacagccatg	1140
actgtgaatg	agaaccgtat	cggttgtctc	gggcgtagca	taacgataga	cgaaggcaca	1200
ggactgccc	cacaaatccg	ttcatggaac	aacgacgtgc	tgagcagtc	catagagttt	1260
gtcatccaaa	ccgcgggtgg	agtgaaaagc	ctgaaagctg	tccccgaact	gacggagcgg	1320
acagaaggcc	atgtagcagg	caactggaaa	gccgaagacg	aagatatgac	agtcagctgc	1380
aaagcaatca	tggagtctga	cggatggata	aactacatat	ataccatcac	cccaaaaaag	1440

cagatacaag	tgaaagacgt	ccgtctggta	ttgccggtca	ggaatgaaat	angaacttat	1500
tttctgggca	tggggcttcc	ggggcaacct	actcctcaac	agtatgaccg	gaaatgggat	1560
gcccccgaga	aaaccgtgaa	cacttttcgga	gtgtccatcc	ccaacttcca	aagaacaaca	1620
atgggctgtg	gcccgtccac	aattttctgg	atcgggaacc	agcatgcagg	tattcactgg	1680
caaatcaggg	gaagcacata	cagccggtcc	gctattgaat	ctgcaccgtc	cggcctatcc	1740
ggaaagctgg	ttcaacgggg	gtaa				1764

&lt;210&gt; 2805

&lt;211&gt; 1377

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2805

ataactaaag	taagggtgta	ttcaggactc	tatgaaagga	gaccggatac	acccttttatt	60
tttactaacg	gtcaggagcg	gaaatataat	atggcagaac	agtcgctaaa	agaaaaaaca	120
gccaaaggat	tattctgggg	tggattcagc	aatggcatcc	agcaattact	gaacctgctg	180
ttcgggaatta	tcatcaccgg	tatgctggat	tcgacagact	acggtatgat	tggtatgctg	240
gctatatatta	ccgccgtagc	caactctata	caagagagcg	gatttacggc	cgctctggcc	300
aataaacaga	cgttccgtca	tgaagactac	aatgcgggtg	tctgggttcag	ttttctaatg	360
gggtgcacgc	tttacctgct	gctctttttt	tgtgccccgt	ttatcgcagc	attctataag	420
actccacagc	ttattctctt	atcccgcttc	cttttccctg	gttttctgat	ttcaagttgc	480
ggaactgccc	ataatgcggg	attatttaaa	aaactaatgg	tgaaagaaaa	agcgaaagca	540
accattaccg	cactatttgt	ttcaggcacc	ataggaattg	tcattggcata	caatggaatg	600
gctttctggg	ggctggccgt	acagcaaata	acctatattt	tcattcgctaa	tgcgctgtta	660
tggtactttt	ctccgtggcg	tcctactttt	tcgttcaatt	tcaaacctat	caggagagatg	720
cttccgttca	gcagtaaaact	gcttatcacc	aatgtatttc	attacatcaa	tgataacata	780
ttttctgttc	tgtctggggcg	cttttatacc	agtcaggatg	taggttacta	tactcaggcc	840
aacaaatgga	ccaatatggg	cttctcactg	atcagtaaca	tgatcaacgg	agtatctcag	900
cctgtcctgg	tcgaaacctc	ttccgacgcc	atgcgacaga	aaaatatatt	tcggaagatg	960
ttgcgcctca	ccgcctttat	ctctttcccg	gccatgttcg	gactggcatt	gatagccaac	1020
gagttcatcg	taattgccgt	caccgccaaa	tggcaggcat	gtgtacccat	catgcagatt	1080
ctttgcatct	ggggagcatt	tgtccccatt	acttatatgt	actccaatct	cctgatcagt	1140
aaaggaaagt	cgaatctttt	tatgtggaat	accattgcac	agagcctggg	tcaactcaca	1200
atgcttcttt	gtactatctc	acaaggcata	ctcgctcatg	ccgtgattta	tacggttatc	1260
aacatcgggt	ggctgctgat	atggcattat	ttcgtaaaca	agcagattca	catcacccta	1320
tgggaagtca	tgaaagatat	cactccgtac	ctactgatct	cggaggaggt	catatga	1377

&lt;210&gt; 2806

&lt;211&gt; 1320

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2806

ctttgtacgg	tttctcaccg	aaaaccacta	tttttgccaa	aacatttcga	tcgaatgaga	60
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&lt;210&gt; 2807

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2807

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&lt;210&gt; 2808

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2808

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&lt;210&gt; 2809

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2809

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ccctga						306

&lt;210&gt; 2810

&lt;211&gt; 990

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2810

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&lt;210&gt; 2811

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2811

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&lt;210&gt; 2812

&lt;211&gt; 2499

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2812

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&lt;210&gt; 2813

&lt;211&gt; 489

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2813

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&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2814

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<212> DNA  
<213> B.fragilis

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<210> 2816  
<211> 1908  
<212> DNA  
<213> B.fragilis

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<210> 2817  
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<212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2817

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&lt;210&gt; 2818

&lt;211&gt; 3201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2818

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gccgggcaata	caaactggat	gaaagaattg	tataaaaaga	actatcccgt	ccagaagtat	1080
aatgtcaata	tcagcggagg	tggaaagaag	gcaacttact	acacatcctt	aggatatacc	1140
gaccagggat	cactgattcg	tttcggtaac	gaacagttca	agaagttcaa	tgtgatgaac	1200
aacatcaatt	atgacgtgaa	cgactgggta	cacctctcga	tgaagacaag	ttttaaccgc	1260
accaaacatga	gaggactgaa	tcaggacaat	gtacatgggtg	ataactttat	gggaggtgat	1320
acccgtccta	tcagtcgggt	gaaacatccg	gacggcaact	gggcaggaca	aggtgacttt	1380
accaattttc	ctgctatcct	tgaagatggc	ggtagccggc	tcaccaacaa	gaatgacctt	1440
tggaaacacga	tcacgatgaa	actgacccca	atcaaaaggaa	tgagcatcaa	catggactac	1500
acgttcaatt	actacagtga	aaacaataag	gttcacatga	agtcatttga	cgaatatgga	1560
gccaatggac	aattcctgca	aacttttgca	tggacgaatc	cgaattctgt	gtcacaatca	1620
caagccaacg	atacatacaa	tgctttcaac	ttcttcgggtg	attacgaaaa	aacattgggt	1680
aaacattacc	tgaaggaat	gatcgggttat	aatcagggaaa	gcaaacatac	taccggattc	1740
aatgccggac	gcgaacagct	gatctcaaac	gatctgggat	ctttaagtta	tgctacagga	1800
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aactacggat	atgacgagcg	ctatttactg	gaagtaaacc	gccgttacga	cctctcttcc	1920
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tctaacgaaa	gttgggtcaa	gagctggaca	aacagtttct	tcgacgaact	gaaaatcaga	2040
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aactatagta	cgggacagat	cagctggatc	atgggcagca	accaaccgca	gtatgtggtt	2160
cccggcggcc	tcgtcagctc	gtccatcact	tgggaaaccg	ttacacagtg	ggacctggga	2220
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cagctggcca	acggattcca	ctatacagtt	gggttcaatc	tgtccgacta	tcaatcggaa	2460
gttaccaagt	tcgataacga	atcgaaagaa	ttggggcaact	ggtatgtagg	tcagaaacag	2520
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gcagccaatc	aggacaaagt	atcgggaggt	atcaaaactga	tgcccgtgta	catccgtttt	2640
gtagaccgta	ataacgacgg	cgttatcgac	tgggggtgaca	acaccgtaga	taatccgggt	2700

gataagaaaa	tcacggaac	cagcactccg	cgctatcatt	acggcatcaa	cctgggagcc	2760
gactggaaa	gtttcgacct	aggtatcttc	ttccaggagg	tgggcaaacg	tgacctctat	2820
ctaccgggaa	cttcattccg	aagccactac	ggaagcgaat	ggcaagtacc	ttcagcctac	2880
aacaacgatt	actggacaga	agaaaatacg	ggagcatatt	tcccccggtg	gcgtttcaat	2940
ggtggttctg	ccatcaacca	agcccaaaca	cgctatatgg	tagatgcac	ttactgccga	3000
ctgaagtcag	tcagcatcgg	ttatacattg	cctaaagtac	tgactcaaaa	ggctttctatc	3060
gaaaagatac	gtatctatct	caccgggtgaa	aaccttttca	ctatttcaga	tacccccgac	3120
ggactcgatc	cggaattgga	taaccatac	acatatccga	tgcaaagatc	attatctgtt	3180
ggtttaagtc	tcacattcta	a				3201

&lt;210&gt; 2819

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2819

nccccaccga	cgccgcgcgc	gaaccaatct	gtgaaggcga	gtgctggatg	tggcggggtt	60
accaatgacg	ggtacagcct	tatttcttct	gacggactgc	aaccgggaga	caaatcgta	120
tcttcaggag	tacatcatat	agaaaacggg	gaaaccgtaa	aaactctgcc	tgaaatcact	180
cacacaaata	taggaggact	gttataa				207

&lt;210&gt; 2820

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2820

aaggaaaccg	cgaacagttt	ctcgtgttgc	acaccagcgg	gtcacacttc	aactatcggc	60
aacgatatcc	tgcggaaggt	gcgtttttcc	aactatgaca	gtcctgccga	tcagaattta	120
aggtatcagc	ataatgtgat	taatgcctat	atcaattcca	tccgttatac	cgacgatttt	180
ctgtcaaggc	tgatcgtcgt	gctgcagcaa	caggatgctg	ggtcggatat	actttatact	240
tcggatcatg	gagaagatat	ttgtgacgac	cattgtcatc	tcttcgtgca	tgcgctctccc	300
gtgcattcca	aatatcagtt	gcattgtacc	ttcattgtat	ggacttcgga	cacctatcgg	360
gagaagtatc	ctgagcatat	ggacgctata	cagaagaatc	gtcacaaatc	tggtgtttcg	420
aaccgggttg	tggtccattc	ggtactcgat	ctggccgggg	tgaccaccac	ctatgtaaac	480
gattcattat	cggtggccag	tccgtcctat	acagagttcc	cccgttttta	cctgaacgac	540
cacaacgagc	cgcgttcgta	cgatgacatc	gggttacgta	aagaggactt	tgagatgttc	600
ggaaagatgg	ggatacgttg	a				621

&lt;210&gt; 2821

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2821

attccttttc	tgattgatag	aggggaatcg	aaaattctct	gcctgaaacc	ccagaccatg	60
aacattccga	acacctctta	tgaagtggat	ttcgaacggg	gtaaccccat	ttttttaaaa	120
gcccttaggg	cccggttacc	cttcggaaag	ctttgggatt	tgggtatccg	gatcaataac	180
cggaccttcc	agccattttg	a				201

&lt;210&gt; 2822

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2822

atgtctgttt	acaaaaatac	ctcctttgtc	ctacccttgc	aaaagaagtc	gaccaagaag	60
gctcttttga	cgataaagtc	acctgcaaag	gaaatagaat	caacaaacag	agggatttta	120
tcagtaatta	tctatctttg	cagcccgaag	aagataccta	tcagcaatat	gaagaaaata	180
tggatacttg	cagtcctgac	catctgttcg	gttgcaacac	aggcacaaga	agttttttatc	240
aatgcagacc	ttgtcagcag	ctacatctgg	cgtggaatga	agaatggaaa	tgcttccgta	300
caaccctactt	tgggtgtaga	gtggaaagga	tggaccttat	cagcatgggg	atcgacagaa	360
ttcagaaatg	aaaacaatga	aatagacctt	acactggaat	acgaatataa	aaatctgcaa	420
ctgtgtctca	acaactatct	ctatcaaagc	gaaaacgagc	ctttcaaata	ctttcactat	480
actccccgaa	ctacgggaca	tacttttgag	gcaggagccg	tctacacagt	cagtgaacgt	540
ttccctttat	ccataggctg	gtataccacc	tttgccggaa	atgactatcg	ggaaaatgag	600
gagcgtgcct	ggctccagta	ttgtgaattc	agttacccat	tcacagtaaa	gggagtagac	660
ttggccgctg	aagcaggatt	cactccgtgg	gaaggagaat	atgcagacaa	actgaatgta	720
gtcaatgtcg	gactttcggc	taccaagacc	ttgaatatct	cctccggatt	tactccggcc	780
atctttggca	aactgatagc	aaacccttac	gagaaccggg	tctacttcgt	tttcgggata	840
agttttatag						849

&lt;210&gt; 2823

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (63), (64), (65)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2823

aaccttgcac	atgggtttaat	ttggaaccgg	tttttaatta	agaacagaag	aatgatagac	60
acnnnaatgc	cttttcggag	aattctgctt	accagtgaata	cgtttcaaat	acttaaagag	120
ggacaaataa	tttcgacatt	caataaatgt	ggtatcttct	attgtcaacg	cggcagtgtg	180
gaagtctctt	tgggaagggtt	ccattatcat	atcaaacccg	gggatgttta	tatctatatg	240
gcttctacct	tgggtgcactt	gttgcataag	agtgaagatg	ccgaggggat	tatgggtgaa	300
gtggactttt	actatattct	accgattgta	aacaaagtga	taaagtgtga	aagccagctc	360
tttatgcgga	aaaatccatg	tgtctccttg	tccggtgaac	aatgtgccca	ttttgaatat	420
ttgctgaaca	atctatggga	taggataaat	gcggaagact	gccagaagga	gaatgtccag	480
taccagcatc	tgaactgga	actgataaaa	tcgatgggac	agactatctg	ctatgaaatc	540
ttaaacatgt	attttaccaa	ccagcccttg	cagcctttac	aacaagggaa	aaaagatgtt	600
gtctttcaga	atttcatgct	gtctctgttc	cgtttctatc	gcaaggaacg	tgacgtctct	660
ttttatgcaa	ggatgcagca	tatcactccc	cgttatttct	cggccatcat	caaggagaaa	720
acaggagata	gtgccttgca	atggatcgta	cggatgggtg	taaccgaagc	gaaacaatta	780
ttggagggaat	ctgatctgag	cataaaagag	atagcggacc	aactgaattt	tccgacacag	840
tctttctttg	gcaaatatct	taaacaatat	gtgggagttt	cgcccaaaga	atatagaaac	900
aatactgcga	caacgagaat	aaaacgctaa				930

&lt;210&gt; 2824

&lt;211&gt; 2265

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2824

aatcactcac	acaaatatag	gaggactgtt	ataatggata	taagtaaatg	ggcattccat	60
aatcgtaacc	tgattttatct	cctgatagcc	gtcctgatgt	tcggaggagc	ttattcctgc	120
tatcagatga	gtaaaactgga	ggatccggaa	ataaaggtaa	aacttgccat	ggtggctacc	180
acatatcccg	gggcttcggc	acatcaggta	gagttggagg	tgaccgatgt	actggaaaag	240
aacatccgca	ccatgggaaa	tatagataat	atagaaaagt	attcttataa	tgatctgtca	300
cttatacaga	ttgaacttct	gagcaccgtg	ccggatgatg	atgtggagca	atgctgggat	360
atgctgcgtc	gcaaagtcaa	tgatgcccg	gcttactctg	ccgaaggagt	cagtgtctcc	420

attgtaaaag	acgacttcgg	gaatgtgtac	ggtatgtttt	acgctttgac	cggatgatggt	480
ttgtctgac	gtgagttgtc	ggactatgcc	gaactgatta	agcgtgaagt	cggcgaactg	540
gaaggggtag	accgcataga	tctgtatgga	aagcgtccgg	agtgcacaa	tatctctttg	600
ttgcaggatc	gtatggcaaa	tttgggtgta	aagcctgctg	aagttctttg	taccctgaac	660
ggtaaaaaca	agactaccta	taccggctat	tatgacaatg	gtgacaatcg	gatccgtgtg	720
actgtcaatg	ataaattcaa	gacggtagaa	gatataggca	aaatgcttat	tcaaggacat	780
gatgacgacc	aactgcgtct	gagcgacatc	gcacaaatag	agaaaggcta	tgaagagccg	840
gtccgtaacg	aaatgtacta	tgacggtagag	cgtgcactgg	gcattctgat	tgccgctacc	900
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gccgaacgtc	tgccctgccg	agtccaatat	caaaagggtg	tctaccaacc	ggagcatgtg	1020
ggcgagtcac	tggttacatt	tgtcatcaac	ctgatagagt	cagtcacat	cgtagtgtt	1080
atcctgatga	ttgccatggg	atttaagagt	gggttatca	taggcacag	cctgggtggt	1140
actgttttcg	gttcattctt	gtttctttat	tccgcaggag	gaaccatgca	acgtgtatcc	1200
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gggatattgg	tagatctgaa	agccgggaaa	gaccggatgg	aggcaatgac	cgccataggg	1320
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atttatatgt	cgccggatac	ggcagggtgtc	tatacgcgcg	atctttttat	cgtacttgcc	1440
gtttctttgc	tgctcagctg	ggtgttggcg	ttggttcacg	taccgttgat	ggctaaccgt	1500
cgtctgcatt	ttgccgtaga	agcctatagt	ggtggcaaac	gggtttacaa	ggggaagatt	1560
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accatggatg	gtttgctggc	tctttctgtt	tttggctatc	agtacatgcg	gcagggtttt	1680
ttccccgctg	tggtttacga	tcagctctac	atggaatata	aactccccga	agggaacaac	1740
tatacccgcg	tagaacagga	tctgaaagag	atagaagctt	acttgaaagg	gcgtaaggaa	1800
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ggacccgac	ctgctgttct	tcaccaattg	gccgacagtg	cacgcaacat	catgaagaat	2100
acccccgaag	tatgtcttat	cactaccgat	tgggagcctc	aaatacctgt	cctgaccatt	2160
gaatatgacc	aacctgccgc	acgcgcactg	ggtttgagcc	gcagtgatgt	cagtatgtct	2220
ttattgactg	cttgccgtgg	cattcctatc	ggatcttttt	attga		2265

&lt;210&gt; 2825

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2825

tgccctacc	aagcaatgcc	agtgaagtc	gtccgagaaa	atatccccga	agaggatgcg	60
ggccccgcca	gcgcataatca	agctcctggt	tccgcaaaag	gagcgggtgac	gaatgctccg	120
gaaatgtatt	gggaaactcc	ctctccctat	cgggtaaacac	ctttccttcc	ggatagcggc	180
ggggttgcat	cggcatcaga	ttctgaaatt	gtttatgttg	aggaggattg	a	231

&lt;210&gt; 2826

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2826

tgttttacta	attattccgt	tattatgac	aaatgcattg	ctgttgatga	cgagcccttg	60
gcgctcgagc	aattgacggg	ctatatagcc	cgtgtccctt	tccgtcaact	gatagcctcg	120
tgccaggatg	cattcagtg	catgcagggtg	ttgtcgggaag	aagagggtcga	cctgatgttt	180
gtcgatatct	acatgcccga	tctgaacggg	ctcgatctgg	tgcggttcgtt	agtgggtgaag	240
cccctgattt	tgtttacaac	cgcttatccg	gaatatgccg	tcgagggtttt	caaggtagat	300
gcagtcgact	atctgctgaa	gccatttgaa	tttcaggatc	tgctgaaagc	agccgataag	360
gcacgtcggc	aatttgagta	tcattttgcaa	gataacgggg	gagggacgga	aactgattta	420
ttggaaaagg	acggttcatt	gttcgttaag	tccgaatata	agattatccg	catcaatgtg	480
gcagacattt	gctatataga	aggtatgagt	gagtatgtac	gcattctatac	cgatacggcg	540
gataagcccg	tagtgacttt	gctgagtatg	agaaagctgg	aagaacgctt	accacaggag	600



atgtttcatga	gggtacatcg	gtcttatatc	gtcaatcttc	ggaaaataac	cgaagtttcc	660
cggttacgca	tcatTTTTcaa	taagaatata	tatataccgg	tgggagataa	ctataaggaa	720
agatttacag	aatatattaa	caagatttgt	gtcagcagtt	aa		762

&lt;210&gt; 2827

&lt;211&gt; 1707

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2827

gaaatggcta	acttttattt	agatactccg	gaactcaagc	atcacttgaa	ccatccgttg	60
atgaagagaa	ttgttgagct	gaaagagcgc	aactatgctg	ataaagataa	attcgactat	120
gctccggtag	acttcgaaga	cgcaatggac	agctacgaca	aagtgctgga	aattgtagga	180
gaaatctgtg	gtgacatcat	cgctcccaat	gcagaagggtg	tcgatcatga	aggcccggtc	240
tgcgccgaca	atcgtgtgac	ctatgccagc	gggactaccc	gtaacctgga	tgctgccgc	300
aaagcagggc	tgatgggcat	ggctatgccc	cgccgctttg	gaggcttgaa	cttcccgatc	360
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tggggattgc	aggattgtgc	tgaaccatt	tacgaatttg	ccaacgaaga	acagaagcaa	480
cgttatatca	cccgcgtatg	ccagggtgaa	accatgtcaa	tggacctgac	ggaaccggat	540
gcaggttccg	atctccagtc	tgtcatgttg	aaagccactt	acagtgaaaa	agaccaatgc	600
tggtatctga	acggagtgaa	acgcttcac	acaaacgggtg	atgccgatat	tcacctcgta	660
ctggcacggt	cggaagaagg	aacacacgac	ggacgcggtc	tttccatgtt	catctacgac	720
aagcgcaatg	gtggagttaa	cgtaacgctg	attgagaaca	aaatgggtat	caaaggctct	780
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ggtctgatca	aatatgtaat	ggcgttgatg	aacggtgccc	gcttgggtat	tgccgctcag	900
tcggtaggat	tgtcacaggc	tgtttacaat	gaagctctgg	cttatgccaa	agatcgtaaa	960
cagttcggta	aggcaatcat	cgaattcccc	gocgtggccg	aaatactttc	tctgatgaaa	1020
gccaaactgg	atgcttcccc	ttcactgttg	tacgagacag	cccgtttcgt	agacgtttac	1080
aaagcactgg	acgacattgc	caaggagcgc	aaactgactc	cggaagaacg	tgccgaacag	1140
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aaaagcatgg	caagcaaata	cgcggcttgt	gtgactcaaa	tcacagaggc	aaaagatcag	1500
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gtacgctatg	cagaagctga	agtagaaaaa	catatcaact	ttatccgcaa	attcgataaa	1680
gacgatctgg	cttactacag	aaagtaa				1707

&lt;210&gt; 2828

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2828

tacattataa	aatctatttc	tttaaaatca	attagtttgg	ttatagttct	gccaggaata	60
atctgcttta	tgtcatttga	tttgtactta	atgtgttgta	atataatgat	ctatggattt	120
aagtctaatg	tgaatcaggg	tttgttgcgt	aagagagacg	ttataggctt	attgaagaat	180
gaagagataa	tttcgaataa	aatattcaat	atTTTTataa	acgaagagct	ggatttatta	240
tattaa						246

&lt;210&gt; 2829

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2829

atatataaaa	acatggctta	tatagattat	tacaagattc	tcggagttga	caaaaatgct	60
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tctcaggatg	atattaaaaa	ggctttccgt	aaattggccc	gtaaatatca	tccggacctg	120
aatcctaattg	acccaagcgc	taaggataag	tttcaggaga	ttaatgaagc	taacgaagta	180
ttgagcgatc	cggagaaaaag	gaaaaagtac	gacgaatacg	gcgaacattg	gaaacatgcg	240
gacgaattcg	aagcgcagaa	gaaggcgcg	cagcataccg	gtggaggcgg	aggaggattc	300
tccggctttg	gcgagacgg	cggttccttat	tggtagctcg	ccgatggaga	ggggttctcg	360
ggtggtgatg	cggaggatt	ctcggacttc	tttgaatcta	tgttcggaca	tagaggagga	420
ggcggacgag	gcaatgcagg	cttcggagga	caagatttta	atgcagaatt	gcacctgtct	480
cttcgcgatg	cggcccggac	ccacaaacag	gtgttgaatg	tgaatggcaa	acaggttcgt	540
attacgatac	cggccggtgt	agccgacgga	cagggtgatta	agttgaaggg	atacggaggc	600
gaaggcatca	acggtggccc	tgcaggagac	ctgtatatca	ctttcaagat	agccgaagac	660
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gccgtactgg	gtggtgagaa	ggtgatcgat	acactggaag	gtaaagtgaa	actgaagata	780
aagcccgaaa	cccagaatgg	aacgaaagtg	cgcctgaaag	gtaaaggttt	tcccgtttat	840
aaaaaagaag	gacagtttgg	cgacttgatc	atcacttatt	cagtcaagat	acctaccaat	900
ctgacagata	ggcagaaaga	actgttcaga	gagttacaac	agagtatgaa	ctaa	954

&lt;210&gt; 2830

&lt;211&gt; 1035

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2830

gaggagagaa	aagatatgaa	taacttattt	gtatattgcy	aaatagaaga	cggcatcgtc	60
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gactatgtaa	tcaacggaa	catcgaagaa	gttgtagcga	agatgattaa	gtattataaa	1020
caaaacagta	agtaa					1035

&lt;210&gt; 2831

&lt;211&gt; 1887

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2831

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cgggaatggg	gatacggcga	ttcggaaaccg	aaaacgttca	atccaaccaa	actggactgt	240
gaacaatggg	tgaaaacggt	tgtcgaatca	ggcatgaagg	gtgtgatcct	caccgccaa	300
catcatgaag	gtttctgcct	gtggcccacc	caattgacgg	agtattgcat	ccgcaatact	360
ccttataaag	acggaaaagg	ggacatcgtc	ggcgagctgg	ctgccgcttg	taagaaatat	420
ggcatcaagt	tcgctgttta	cctctctcca	tgggacaggc	accaggccaa	ttacggcaca	480
ccggaatacg	tagattactt	ccataaacia	ctgactgaat	tgatgaccaa	ctacggtgaa	540
gtatttcgaag	tatggtttga	cggggccaac	ggagggtgacg	gatgggtatgg	cggagccaaa	600
gacagccgta	ctattgatcg	taagacctac	tacaattatc	cgcgaattta	cgaaatactg	660
gacaagcttc	agccacaagc	tatcgtcttc	tccgacggag	gtcccgggtg	ccgttgggtg	720

ggtaatgaaa	acggatttgc	cggagccacc	aactgggtcat	tcttgcgtgc	aggtgaagtg	780
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ggatttgcag	aaataggaat	ccaataa				1887

&lt;210&gt; 2832

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2832

ggatatacac	ttacaggcaa	ccgaaatccc	tgtattgccc	tatacaatct	gttcatctgt	60
gataaacttc	cggcacatgc	tcaaaaagag	cttcaccaac	ctaacatccg	gtcattaact	120
gctgacacaa	atcttggtta	tatatctctg	aaatctttcc	ttatagttat	ctcccaccgg	180
tatatatata	ttcttattga	aatgatgcg	taa			213

&lt;210&gt; 2833

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2833

gtaaaacatt	gcaagactaa	gacaacaaca	ggtcttaaag	tctctttcac	cacagatgaa	60
cagatttata	aggatataca	cttacaggca	accgaaatcc	ctgtattgcc	ctataacaatc	120
tgttcatctg	tgataaactt	ccggcacatg	ctcaaaaaga	gcttcaccaa	cctaacatcc	180
ggtcattaa						189

&lt;210&gt; 2834

&lt;211&gt; 1308

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2834

aaacaatact	gcgacaacga	gaataaaaacg	ctaaaatata	gcagtaaaga	tagacgttca	60
tttccatatt	tggggatatt	cagctatctt	tgctgcataa	atattaataa	aaacgacata	120
ataatgaaaa	agacaatcct	cctggccgct	ttaggcctga	tcagtctgag	tgcatggggc	180
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caccacacga	tggttgaccg	cgctgttaac	tacgttcgct	atcatggcga	cagttctttc	420
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caggatgcta	tgccgggaat	catgtatggg	gactcactgc	ctgttcacaa	cgaactggat	540
gcaacagcag	gagcctatgt	taatgctatt	gccaaaggta	atctgaagaa	actgactccg	600

gtatggaaga	agggcctttg	cgctatttat	gatacttacc	tgggacaatg	cccggaaaag	660
ttcacttaca	aaggcaaga	gtatactccg	atgacttttg	cacagtcttt	gggactgaat	720
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cagaacggca	aagaatactt	tatggttaag	aactcttggg	gtacaaacaa	caagtacaaa	1200
ggtacttggg	atgcttctaa	agcttttggt	gcttacaaga	ctatgaatat	tctgggttcat	1260
aaagatgccc	ttccaagga	tatcgcaaag	aaactgggaa	taaagtaa		1308

&lt;210&gt; 2835

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2835

gctgggaagc	ttaatgcacc	ggcgagcaag	agcagagtaa	cttgtctagt	gatttttaac	60
ataacaattt	tgttttgggt	taataataaa	ggttttgttt	ggttctttta	cattcttcct	120
ttcttgttga	ttatcctttc	ttatttcttt	aaaaatggat	tagttctggc	agaacttggg	180
gaaatgtaa						189

&lt;210&gt; 2836

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (719), (720)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2836

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agggtcatgg	ctctctataa	agagaacgga	accacaccca	atgccaatga	caaggctgtc	240
tatggactga	aacaaatcac	agccaaatat	aaacatcatc	aagatcagtt	ggcatatacc	300
cgcttttatg	ctcctttcag	cggatatgta	caaaaacggt	tgttcgaagc	ccatgagacc	360
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gctaatacagt	tgtataccat	gcgacttcag	ctaataaccg	gaaaacaggc	tgttccttct	600
cccggaatga	atgccatggg	gactatcttt	tgcgatacag	atcgctccgg	tacgttatcc	660
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ccccaccgac	gccgcgcgcg	aaccaatctg	tga			753

&lt;210&gt; 2837

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2837

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ttggcaaaaac	aagttcccga	cacacgaaac	gttgggaaag	atgccatgaa	agccgacgga	180
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```
<210> 2838
<211> 4047
<212> DNA
<213> B.fragilis
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<400> 2838						
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gttacgctct	gctttgccgg	tcaacgacct	ttagagggat	ttaagtatgc	ctcggaaaaa	120
gccccggtgg	gcaatgaatg	ggaatcaccg	gagaacattg	cactcaacaa	agaacaacca	180
cgagcctggt	tcttttcctt	ccaggatgtg	gaaagcgcac	gcaaagtgtt	accggagaac	240
agtaaatact	ggttgtcact	gaatgggtgac	tggaaattta	attgggcacc	cgatccggat	300
tctcgcccca	aagattttta	tcagactact	ttcgatgttt	cgggctggga	caacattccc	360
gtcccttcaa	gttggaatat	ctatgggtatc	cagaaagacg	gtagcctgaa	atacggagta	420
cctatctatg	tgaaccaacc	tgtcatttttc	atgcacaaaag	tgaaagtaga	cgactggcgc	480
ggaggtgtga	tgcgtactcc	tcccactaac	tggactactt	ataaataccg	taacgaagtg	540
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&lt;210&gt; 2839

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2839

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&lt;210&gt; 2840

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2840

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 <213> B.fragilis

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&lt;210&gt; 2847

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (156)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2847

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&lt;210&gt; 2848

&lt;211&gt; 2493

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2848

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&lt;210&gt; 2849

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2849

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&lt;210&gt; 2850

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2850

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&lt;210&gt; 2851

&lt;211&gt; 1680

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2851

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&lt;210&gt; 2852

&lt;211&gt; 3027

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2852

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&lt;210&gt; 2853

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2853

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 <213> B.fragilis

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 aagatccacc ggatgacgga atactgcacc cgcacccctg ccgatcacgt gcccgaccct 180  
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<210> 2855  
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 <212> DNA  
 <213> B.fragilis

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 atcgattcaa ccggtatatt ggcttatcac caggtggaac tgaccgatag ccgcatgcat 240  
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 <212> DNA  
 <213> B.fragilis

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 aaatataaag atataaaaat ccgcatgcac caacgtgccg catggatctc ccagctacgc 180  
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<210> 2857  
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 <212> DNA  
 <213> B.fragilis

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 tttgtaccgg tgetgaaaga gcatggagta aaaagtccct tttcaaaaag tgggtgaccgg 180  
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 <212> DNA  
 <213> B.fragilis

<400> 2858  
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&lt;210&gt; 2859

&lt;211&gt; 1179

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2859

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&lt;210&gt; 2860

&lt;211&gt; 2115

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1399)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2860

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&lt;210&gt; 2861

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2861

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&lt;210&gt; 2862

&lt;211&gt; 552

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2862

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 <212> DNA  
 <213> B.fragilis

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<210> 2866  
 <211> 420  
 <212> DNA  
 <213> B.fragilis



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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;210&gt; 2870

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2873

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<210> 2881  
 <211> 2367  
 <212> DNA  
 <213> B.fragilis

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 gccaccatag ggcgtgatta tggagtaccg accttgtgta ttcagcaggg atggccgtca 720  
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&lt;210&gt; 2882

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2882

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tag						183

&lt;210&gt; 2883

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2883

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ctctgtttac	gtttactcaa	agcttga				207

&lt;210&gt; 2884

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2884

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&lt;210&gt; 2885

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<210> 2886  
<211> 780  
<212> DNA  
<213> B.fragilis

<400> 2886  
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<210> 2887  
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<212> DNA  
<213> B.fragilis

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tctttctaa 309

<210> 2888  
<211> 588  
<212> DNA  
<213> B.fragilis

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gaagttcaga aaggtaaagt caatgtagag ttgaccgtta aaaagacctc tcgtgctttt 180  
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attgatccgc gctggaatga attaaaaaaa atattagata ataattaa 588

<210> 2889



<211> 1296  
 <212> DNA  
 <213> B.fragilis

<400> 2889  
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 <211> 192  
 <212> DNA  
 <213> B.fragilis

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<210> 2891  
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 <213> B.fragilis

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&lt;210&gt; 2892

&lt;211&gt; 1197

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2892

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&lt;210&gt; 2893

&lt;211&gt; 1275

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2893

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&lt;210&gt; 2894

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2894

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&lt;210&gt; 2895

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2895

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&lt;210&gt; 2896

&lt;211&gt; 1488

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2896

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&lt;210&gt; 2897

&lt;211&gt; 1242

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2897

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&lt;210&gt; 2898

&lt;211&gt; 237

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2898

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&lt;210&gt; 2899

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2899

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&lt;210&gt; 2900

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2900

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&lt;210&gt; 2901

&lt;211&gt; 252

&lt;212&gt; DNA

<213> B.fragilis

<400> 2901

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<211> 1716

<212> DNA

<213> B.fragilis

<400> 2902

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<210> 2903

<211> 228

<212> DNA

<213> B.fragilis

<400> 2903

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<210> 2904

<211> 1377

<212> DNA

<213> *B.fragilis*

&lt;400&gt; 2904

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&lt;210&gt; 2905

&lt;211&gt; 795

&lt;212&gt; DNA

<213> *B.fragilis*

&lt;400&gt; 2905

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&lt;210&gt; 2906

&lt;211&gt; 612

&lt;212&gt; DNA

<213> *B.fragilis*

&lt;400&gt; 2906

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&lt;210&gt; 2909

&lt;211&gt; 1884

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2909

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&lt;210&gt; 2910

&lt;211&gt; 1716

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2910

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&lt;210&gt; 2911

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2911

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&lt;210&gt; 2912

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2912

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&lt;210&gt; 2913

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2913

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&lt;210&gt; 2914

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2914

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&lt;210&gt; 2915

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2915

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&lt;210&gt; 2916

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2916

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 <213> B.fragilis

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<211> 243

<212> DNA

<213> B.fragilis

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tacaaattat cagtaaatat tcgtatttta aatagtattt tatttataac ccgctttccc 180  
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<210> 2921

<211> 291

<212> DNA

<213> B.fragilis

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<210> 2922

<211> 783

<212> DNA

<213> B.fragilis

<400> 2922

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<210> 2923

<211> 255

<212> DNA

<213> B.fragilis

<400> 2923

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tatactacga catgggtgtt gagacgctgg gcgatcttct tctcgatgcc atcgaatgca 180  
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 <212> DNA  
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 aatatacctt tttattctgt cgattttactg gaaatggaga aaatgaaagg ggaagaaata 180  
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 <212> DNA  
 <213> B.fragilis

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 atagagaaga ccaaaggac agtgatgtct ttgggtgatt taatggaaac ataccgaaac 180  
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 cgcaagggac gatatgtggc tgatattggc ggagttagtc aaggcccggt agagtattta 360  
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 <211> 252

<212> DNA  
<213> B.fragilis

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ggtgttagtt ctaaggcaag taatttagag ggtaataagg attgcgata ccctttatct 180  
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gcggggatat aa 252

<210> 2927  
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<212> DNA  
<213> B.fragilis

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tcctctttgt gtgtcataga tgttacttgt gaatatcctg ttgagaaagt gaatatacat 180  
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<212> DNA  
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<210> 2929  
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<212> DNA  
<213> B.fragilis

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&lt;210&gt; 2930

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2930

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&lt;210&gt; 2931

&lt;211&gt; 420

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2931

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&lt;210&gt; 2932

&lt;211&gt; 1380

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2932

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&lt;210&gt; 2933

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2933

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&lt;210&gt; 2934

&lt;211&gt; 1905

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2934

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&lt;210&gt; 2935

&lt;211&gt; 711

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2935

tgctttttat	ttatatattgt	acagagcaaa	aagaagcaaa	ccataaatac	agacaaaggc	60
tacatggaag	cgaaggcaga	aatactatta	gttgacgatc	atgcactggg	tcttgaagga	120
atgcggcgta	tgctggagtc	ggtctctgat	gtcagagttg	ccgatgcggg	gacttcgggg	180
gcaaaagctg	ccgagctgat	tgagagcgcg	gattatgaca	tctatgtgtt	ggatgtgaat	240
cttccctgata	tatcaggatt	cgatctgggt	gatatgattc	gtgagattaa	cgagagtgcg	300
cgtattatta	ttagtactat	gcatgaggaa	atctggatta	tcaatcgttt	gattcggccag	360
aaagtgaatg	ctgtgatcct	taaatcatcc	gaagcggtag	agtttgaaaa	tgccgtgaaa	420
agcgtgcttg	aaggaaatcc	ctatacttgt	cgcgggttcc	aatctattcg	tcaaaagcta	480
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&lt;210&gt; 2936

&lt;211&gt; 1233

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2936

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gacgattcaa	tctggaaaca	gatcccttca	tatttatgta	gcgataaaga	gatggatagc	480
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&lt;210&gt; 2937

&lt;211&gt; 1620

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2937

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accgctttgg	tatcggttta	tcacaaagaa	ggtttggatg	aaatcattac	caaactgcac	180
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&lt;210&gt; 2938

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2938

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aactttatga tgaacaaaa ataa

384

&lt;210&gt; 2939

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2939

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cagaagaaga	tgacgggttcg	cgtagacttt	acgcctatgg	tggatatgaa	tatgttgttg	120
atcactttct	ttatgctttg	tacctcgctg	agtaaaccctc	agacgatgga	gataagcatg	180
ccgagcaatg	ataaaaaacat	caccgaagaa	cagcaaagca	aggtgaaagc	ttcacaggca	240
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gacgagtttc	tggtgaagaa	ctttgaaagc	aaggggtgaac	tttcacagaa	tattgccgac	660
taa						663

&lt;210&gt; 2940

&lt;211&gt; 1422

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2940

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&lt;210&gt; 2941

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2941

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------------	------------	------------	-------------	------------	------------	----

tcaatcatgg	agaaatttga	ctccatgctt	tcacccgtta	tcgactcaac	actgggtcag	120
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&lt;210&gt; 2942

&lt;211&gt; 867

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2942

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&lt;210&gt; 2943

&lt;211&gt; 1542

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2943

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&lt;210&gt; 2944

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2944

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&lt;210&gt; 2945

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2945

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&lt;210&gt; 2946

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2946

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&lt;210&gt; 2947

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2947

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&lt;210&gt; 2948

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2948

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&lt;210&gt; 2949

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2949

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&lt;210&gt; 2950

&lt;211&gt; 2379

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2950

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&lt;210&gt; 2951

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2951

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;211&gt; 1440

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2955

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&lt;211&gt; 564

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2956

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&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2957

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&lt;210&gt; 2958

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2958

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&lt;210&gt; 2959

&lt;211&gt; 1092

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2959

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<211> 183

<212> DNA

<213> B.fragilis

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<211> 873

<212> DNA

<213> B.fragilis

<400> 2961

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<213> B.fragilis

<400> 2962

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&lt;210&gt; 2963

&lt;211&gt; 1269

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2963

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&lt;210&gt; 2964

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2964

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&lt;211&gt; 759

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2966

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&lt;211&gt; 1389

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2967

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&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2968

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&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2969

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&lt;211&gt; 2304

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2970

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<210> 2971

<211> 960

<212> DNA

<213> B.fragilis

<400> 2971

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<210> 2972

<211> 618

<212> DNA

<213> B.fragilis



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<210> 2973  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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<210> 2975  
 <211> 828

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2975

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&lt;210&gt; 2976

&lt;211&gt; 861

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2976

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&lt;210&gt; 2977

&lt;211&gt; 1962

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2977

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&lt;210&gt; 2978

&lt;211&gt; 600

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2978

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&lt;210&gt; 2979

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2979

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&lt;210&gt; 2980

&lt;211&gt; 4557

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<210> 2981
<211> 228
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (58), (74)
<223> Identity of nucleotide sequences at the above locations are unknown.
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<210> 2982
<211> 906
<212> DNA
<213> B.fragilis
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tatactgttt	ttggcggaagt	tgtcgagggc	atggacattg	ttgacaaaat	ccagcaggta		840
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gaataa							906

<210> 2983  
 <211> 387  
 <212> DNA  
 <213> B.fragilis

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 cctataaaac aaattattca aagcagtga acttcctata taaaacccat tcattcgctt 180  
 gaatcgccctc ttttgcaagg ctccgtgccc ccaagggatg ccgagatacc cacctcttcc 240  
 aataaccggt atataggaca agaaaaggct atcggatttc ccatagccat ctccattaag 300  
 aaagtgttat ccggaggggc gtcctctttc ctccgcccc tgtataaaac aagtcatccc 360  
 ctccggtctt tcgaccgaag gggatga 387

<210> 2984  
 <211> 1002  
 <212> DNA  
 <213> B.fragilis

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 cttgctgccg gcatgggcag ccgttacgga ggcttgaaac aattggacgg actgggtccc 180  
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 agcaaatggt tcggcgtagc ttatgctgcc gaccgtcagg gtgtagtaga taagattcag 960  
 gcattggtag atgcaggcga atatcctgat aaactgttct aa 1002

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 <212> DNA  
 <213> B.fragilis

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 gatgaaatga agaaagaaga taccggcttg cgggcagaga ctttaaagca tgccgtcgac 180  
 ctctttcagc gtacagtatc ggaattggta ctgaacggat actctgtcaa tacggggcta 240  
 ttccgtgccg taccacagtt tcgcggggta atagacggcg gagtatggaa ttccgagaaa 300  
 aattctatct atgtttcctt caatcaggat aaggatttac gtgaaactat cgcacggacc 360  
 ggagtaaaga ttctgggagc caaagggtgac tcggcctact tcatcgggtg tgaagacgcc 420  
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 aatattaaag taactggtac agatcctgcc gtaggtatcg tcttgattga tgaaaaaggc 540  
 acggaacga agctaccgat ggatatgata gcagtaaaca acccttcgga agtattgggt 600  
 ctacttcttg ccgacttgaa agacggaatc tatgagctgc gactgactac acaatactgc 660  
 cacagttcgc agacaatgct aaaaacgccg agaactgtca gtcgatttat caatatcggc 720  
 gcatcccagg ggagtggtag tgacgatatt gtagatgac caacggcctg a 771

<210> 2986

<211> 2181  
 <212> DNA  
 <213> B.fragilis

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 atgaagcgtg attccgtgtc cggcaaacgt atccggttta taggtatcga cgggggtatat 180  
 ggtgacgggtg ccggattgca agccgtagcc gatgagaagt tggaagcctc gtccagttac 240  
 cctaccggag gtgctatttc cattcagggtg gccatgcaga ttattaatgg agaaaagggtg 300  
 aagaaaaact atgtattgaa cactgccatt atcaatcggg ggaatgcgaa gaccattttg 360  
 gcacagtccg aacaactcaa ccactaccag aaaagaatca accggcagaa gcaggaagaa 420  
 gataatttat tgtctcgttt caagttcctg cgcaactcta ctatcctgat tttggcattg 480  
 atgttgctca ttatcccttt gctgggatat gtaatgtaca tgaacctccg ggtaaaaaat 540  
 aagaataaag aactgcatga taaaaatcag cttgtagaag ctcaaaaaga agaactggct 600  
 gtcaagaata gccagattga gaatatctcc aaccagaaac tacaattttt taccaatatc 660  
 tcccatgaaa tccgtactcc tcttacctg atacttggac cgggtcaataa attgataaag 720  
 aactccaagc tcatccttc tattcaagaa gacgtggctt tgatgaaacg gaatgtagac 780  
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 <212> DNA  
 <213> B.fragilis

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 ggggatactg ccgacgagtt aatccccatc catatcagtc tgacagggtg caacgactat 180  
 cattcttctt ctttttaacaa cgcttcgacc cgtagccact ctcccctgat cgccgaatgg 240  
 gtgggggtaa aagctttctc acctacacgc acaggagagc aaccggacta tgacgggtcca 300  
 cggatagcct cgatggaaact gacggaagat accctgcccc gtgtaagtac ccgtgcaaca 360  
 gtgcctgcgg gagtctatatt ccggctgatt gtttttcgga agtccgaaa taactatgtc 420  
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 gctgccgact tgggaactat gctttccacg tatgcctaca acagcagcac agtgtctatc 600

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agtcctaccg	gatttccaag	caatacgcac	accaattgca	cgggtgtata	tgtaaagcaa	780
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tttgcagggg	ccagaacgat	aacagtgcac	ttcaatacac	tgacggtagg	cggacggatt	960
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&lt;210&gt; 2988

&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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ttaattatca	gtcattttatc	tatcctcctt	gcatttagtg	cggagagtaa	aaatagtgtt	180
tcaaaagacg	tacgtctttt	gaaacatcgt	ttgaaaaact	aa		222

&lt;210&gt; 2989

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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atggtaattg	tcagtttgca	caacttctga				330

&lt;210&gt; 2990

&lt;211&gt; 375

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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cgaaagttga	gagccgtgtt	cggcacttac	ctgctattgg	ggctggagtt	ccttatcgct	240
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attgtcgttg	taagaaccat	attatcggtg	ttcctcaaca	aagaaatcaa	agaattggaa	360
acagaaaata	actaa					375

&lt;210&gt; 2991

&lt;211&gt; 1296

&lt;212&gt; DNA



&lt;213&gt; B.fragilis

&lt;400&gt; 2991

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gcttatgcaa	aacccttcaa	aacagaattc	ggataa			1296

&lt;210&gt; 2992

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2992

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actcttaccg	gccagccggc	aacaaatatg	tatgacgact	ggagtgaaga	gatggaagac	120
cgtgcagaca	atgtgtatga	tgataccaaa	aagaaatctg	ccggcaacaa	aaagtcaaag	180
gagaagaagc	tcaaggagat	agatgaagta	gtaaaagagg	atcttgagta	a	231

&lt;210&gt; 2993

&lt;211&gt; 2064

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2993

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aatctgctga	aatataaaac	ccaaagtatt	atcagcatta	tcggactagc	tgtaggaatc	180
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acggaaggga	gttgggaggc	ctgcaaagat	acgatccgga	aaatgaaaga	agaagatttt	1980
ccctcttcgt	tcttgagact	ttataacgag	gaagaggagt	ataataaacc	taaaatccgc	2040
aactatcatc	caatacacga	ttaa				2064

&lt;210&gt; 2994

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (24)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 2994

gttctctgagc	accaaatagt	tgcncaggat	tttgccatgt	cagaattttc	acttatctta	60
gtgttgcaaa	aagaaaaaca	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
ctgagaaact	cacacctttt	ggaggaattt	tttcaatcat	ggagaaattt	gactccatgc	180
tttcaccogt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

&lt;210&gt; 2995

&lt;211&gt; 2514

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2995

ttctctctta	atatcttaat	aagcaagagg	ttaaaattct	ttcagactct	gtgttactcc	60
gtggtgaatc	aaactcaaaa	tcatacaaac	atgaaaacca	taaggctggc	ctggaaggct	120
ctggcacgtt	tcagaacata	tacattcatc	aatatactgg	gcttggcctt	gagtctggct	180
tgtgtactta	tcatectccg	gtatatccat	caggagggtta	ccgtaaatca	tttctgcaaa	240
gaccttgaaa	acacctatct	gctatatatc	gagtacgaag	atggaaggcg	gacaataagc	300
agtaatgaag	ataggaataa	cgaccccaac	tttatcgatc	cgctgaacga	cccgtctgtc	360
ctgaaaagta	ccgatggat	taactttccg	gaagacagga	ttacagttag	gaaacagata	420
tataatgtaa	aaaccgtagt	gaccgacagt	gtgtttctgc	agataattacc	ctatccgtcc	480
gtgtccggca	tttcatctct	gaagtctccg	aatgacgcca	tcataccccg	gcgattggct	540
gaaagattgt	ttgaaaaga	gaatcctatt	gggaaaacaa	tgacttacag	cacgggggac	600
atcgtcacag	ttacgggagt	aataggagag	ccgacgacga	aaagcttttt	agatttcgac	660
cttattatat	ccgaacgatt	gcaacattca	tggctcgcgt	taagcaatag	tctggtacaa	720
ctgatacccg	gaacggactt	taagaaactg	aacgtcaaga	acgagaagtt	tatgaagtta	780
aggtgccata	tggatgcacc	gacccgcctg	cagttctttc	cattaaaaga	tttctatttc	840
gataagactg	tccgcgttta	taataacaat	atccggaaag	gcaactacaa	taatatctta	900
gtacttgccg	ttgtcaccat	tgtcttgttg	ataatcggct	tgttcaattt	catcaacatc	960

tatacgggtga	tgatgctcaa	gcgtgccaga	gagtttggag	tcaaaaaagt	atatgggtgcc	1020
ggcgcaaagg	atgtattcgc	acagattttc	actgaaaact	ttatcctgac	aggcatggct	1080
ctatgcatat	cctgggtgcat	tatcgaaata	accgggtggca	tgatggaaca	tgtgctccgg	1140
ataccgcaaa	cctccaatac	ggaatttagt	gccacattat	ccgtaggaat	cctgattctg	1200
ttgccattat	tgacttctat	ttatccattc	atcagataca	actacgtttc	accttccgta	1260
tctatccgtt	cggtaaatgc	gggaggacat	tccatcgat	cccgtgtgct	gtttttattc	1320
gttcaatata	tcatcacctt	tgtacttatt	attgtttccc	tctttttcac	gaagcaagtc	1380
cgcttcatgc	tgtctgccga	tctgaactat	accaccaagg	acatcattca	atgtcagtta	1440
tacgccgaac	gctcttcgta	tgatataaat	atatcagacg	aagagtggga	gagacggaag	1500
cagagagaga	aaagtaatct	ggcctacatc	aaagaagaga	tggatcattc	cccgtctttt	1560
atccgttggg	aatatggaga	gaacccgaat	cagctggatg	acaattatat	caatgtgcgg	1620
aatgcacagc	gggacgagtt	caagcaagtt	atttacagca	gcctgagcaa	taaataatatt	1680
gaactgttcg	gcttttcagct	aaaagaaggc	cgccataggga	atgattctgt	cgaccaatgg	1740
actgattata	aaatgatcat	caacgaatcg	gccaaatcac	ttctggaaat	agataatata	1800
gaaacagccc	tgattcagcc	tgaaaggaga	ttgtggtggt	ccttgtcaaa	atccgaagaa	1860
atgaagaaga	atcctccata	tcagggttatc	ggagtgatca	aggacttcaa	aatcggccat	1920
ttatcgaaaa	ccactcctcc	gctctttatc	gtttacgaag	atccgcgggg	cagctacaga	1980
gaccgggttg	tggcacaaat	cgttcccggga	aaaaagcaag	aagccattgc	cttcctgaaa	2040
aaactgcgcg	atgaaatact	gggcgaagggt	gagtttgaat	acagcttttt	agaagacgag	2100
atagcgacca	tgtatcagga	agacaagcga	actgccgaga	tatactccct	gttcagtatc	2160
attgccattc	ttatatcttg	cctgggactg	ttcggattgt	ccatgttcga	catccgtcag	2220
cgatatcgtg	aaatagcact	acgcaaggta	aacggcgcta	ccctgaaaga	gatctatccg	2280
cttctattaa	agaaatactc	gattatcctg	ggaatggcat	tcatcatttc	ggcacctctg	2340
tcctgggtata	tcatttcgaa	atatctggaa	ggattcgcca	acaaagctcc	tatatcctgg	2400
tggtctgttg	caattgccgc	catagtgaact	gctttcatat	caactggccac	tctgatatgg	2460
caaatacgga	aagctgcca	tatcaatccg	gccaaagtat	tgaaaggaga	gtag	2514

&lt;210&gt; 2996

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2996

gaaacgtcta	aatcgcaacc	tatccttttt	tottatgata	ctgcccattc	gtcattggag	60
gtaacgtcta	ccgtttgtcc	tgtccctaca	ttcacaagcg	atagcgagga	cttgttcacc	120
gaaagagcag	atgctcccgc	tgcccattta	aattggcacc	ttaccatttt	tcctgcacta	180
tcagtcacgt	caacattagg	agctaaccgt	gtgggcaacg	gattgcgggc	tatttccagt	240
ttgatggaaa	acgcataa					258

&lt;210&gt; 2997

&lt;211&gt; 447

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2997

aattacatcg	acatgaaact	tattatttat	aacagccggc	ttgcaaaaacg	catgctgttt	60
ccgggggtatt	cgacaatcat	gttatattggc	attatcctga	ctaaaagaag	gaaagaagaa	120
tgtccgcctg	cattgatccg	acatgagcaa	atacatcaaa	aacagtattt	tgagtgtttt	180
atactccctg	ttttaccggc	tatcctgttt	actccatgga	tgctgacctt	atgccctttg	240
agtttctata	tactttatct	ggcagagtgg	ttcataagtt	tcgtatggta	tttttggagt	300
caaggaatga	cagatccggg	cagagccggc	catagggcat	atatgtcgtc	ggccatggag	360
atggaggcta	aggtaaaaaga	ggtagaagca	gggtatctcg	aaagaagaaa	acactttgca	420
tttatgaggt	attacgacaa	aatataa				447

&lt;210&gt; 2998

&lt;211&gt; 1371

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2998

tataacatgg	atcagcttgg	aaaaatatta	attgtaggcg	ataacgagga	tgtgttgttc	60
gccctcaatc	tattgctcga	accttatact	gaaaagatta	aggtggctac	tactcccgat	120
cgcacgaac	acttcatgac	tacgttcggg	cggacatca	ttttgctcga	tatgaacttc	180
agtcgtgatg	ccatcagtg	gcaggaagga	tttgagagtc	tggaaacagat	tctgaagatc	240
gatccgcagg	ccattgtgat	ttttatgacg	gcttatgccg	atacggacaa	ggctgtgcgt	300
gccatcaaag	caggtgcaac	ggactttatc	cccaaaccat	gggaaaaaga	gaaactgctg	360
gctacactct	cttcgggcat	gaaactccgg	cagtcacgtc	atgaagtga	tatgctgaag	420
gagcaggtag	aagtgtctg	cggacagggg	ggaccgaaa	atgagattat	cgggtgaatcg	480
gaggctatgc	aagaggtgtt	ttcaaccatc	aacaagttaa	gcgagacgga	tgccaatatc	540
ctgattcttg	gtgaaaacgg	taccggaaaa	gatgtgattg	cccgtttgct	gtaccgttgt	600
tctccccgat	acggtaaacc	gtttgtaaac	atcgacctgg	gcagtattcc	cgaacagttg	660
ttcgaaagcg	aattattcgg	atacagagaa	ggtgctttca	ccgacgcacg	caaagcaaag	720
gcgggacgca	tggaaagtgg	gacagggggg	actctgtttc	tggatgaaat	aggtaacctt	780
tcgctcccta	tgcaatcgaa	actgctcact	gcgatagaga	aaaggcagat	cagccgggta	840
ggctctactc	agtcgggtacc	tatcgatgtc	cgcctgatct	gtgcgacgaa	tgccgatatc	900
agggcaatgg	tggatgaagg	taacttccgt	caggatctgc	tctatcgcat	caatacgata	960
gaaattcata	ttcctcctct	acggggagcgt	ggtaacgatg	tcattctgct	ggccgagttc	1020
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aagaataagt	tactgaagta	taattggccg	ggcaatgtac	gcgagttgca	acataccata	1140
gagcgtgccg	tgattttggg	tgacggctcc	ctgctgaagc	ctgagaactt	tcttttccac	1200
tcttctgtcc	ggcaaaagaa	agaggaagag	gtactcaatc	tgggaattgtt	ggaacggcaa	1260
gcgtagagaa	aagccatgcg	gctgagcgag	gggaacatca	cccgggcagc	cgagtatctt	1320
ggtatcacc	gttttgctct	ttatcgtaaa	cttgaaaaac	tgggcttatg	a	1371

&lt;210&gt; 2999

&lt;211&gt; 1488

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 2999

aaaaagaaat	gcacaatgaa	cttgaaaacg	atacttatca	ttgccggatg	cagttatatc	60
tttccggcaa	ctgcacagga	acgcacgatg	gagctctcgc	tggacgaaac	cgtaaagctt	120
gccaaagctt	agtcacccga	cgcacaaaac	gcacgccaca	gtttccgctc	agcctactgg	180
aactataaat	attacagggc	gaactatctg	cctgccttga	gcctgacctc	ggacccgaac	240
ctgaaccggg	ctatcaataa	ggtaacactg	ggagacggaa	ccgtgaagtt	tgtagaacaa	300
aacatgctca	gcaccgacct	tactctgaat	ttaacacaga	acattccatg	gaccggcggt	360
tcactgtttg	tggaaacggc	agcacaacga	atggatatct	tcagcgacca	cacgcagccc	420
tggcagactt	cacctattaa	tataggctat	cgtcagtcgc	tcttcggata	taacagcctg	480
aagtgggatc	gccgcacgca	accggtccgc	taccgggaag	caaagaaatc	gtatgtagaa	540
acactggaac	tggtagccac	gcgtgctact	caaaaattct	ttaaccttgc	caccgcacag	600
agcaattacg	aaaccgccac	taccaattac	gctaacgcag	acacactcta	tcaatatgcc	660
cagggacgct	acaacatcgg	taccatcacc	gaaaacgaaa	tgctgcaact	ggaactgaac	720
aaactgaccg	aagaaaccaa	ccgaatgaat	gcccgtatcg	agatggacaa	ctgcatgcag	780
gagctacgct	cgtatctggg	cattcagagt	gacgaggaac	tcaaggtgaa	aatcaacgac	840
cacgtaccgg	acttcagtgt	agaactgcac	gaagccttat	tactggccaa	cgaaaacagt	900
ccggaaatac	aaaacatgat	acgccggaaa	ctggagagtg	aaagcaacgt	gtcgtacgcc	960
cgtgccaatg	ccggactgaa	agcggatatt	tatctgcgtt	tcggcctgac	acaaactgcc	1020
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gcactaccga	tctctgactg	gggacggggc	aagggcaaa	tgccgctggc	acgctccaac	1140
cgcgaccttg	tgtacacaca	ggtggaacaa	gacaagaccg	atttcgaact	aaacatacgc	1200
aaactggtga	aacaatttaa	tcttcaggcc	cagcgggtca	gaatagccgc	gcgaaccgat	1260
gaaacagctc	aacgacgcag	cgactgggcc	cgcaaacctt	atctgctggg	caagtctacc	1320
attctcgatc	taaacgcttc	catcaccgag	aaggaccagg	cacgccgcaa	ctacataacg	1380
gctctttaca	actactggag	tctgtattac	acgttgcgca	gccttactct	tttcgacttt	1440
gaaggcaaaa	cgccgcttac	cgagaattat	gacctgctga	tagactga		1488

&lt;210&gt; 3000

&lt;211&gt; 462

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3000

catgattgtc	gaataccccc	gaaacagcat	gcgttttgca	agccggctgt	tataaataat	60
aagtttcatg	tcgatgtaat	tttaatgggt	gccgcaaagt	tcgcatactc	ttttcagggc	120
gtaaaggaca	tcctagttct	tatggaactt	ggaaaatacc	ccggacgggg	agtaaaagca	180
aagcgaatca	aaacagtaga	aataaatcat	ttaataaatt	acaagtatgg	caaaagcaag	240
ttggtgcaat	gtaagcccca	tgtcggggcaa	gagagatggc	gttttgacaa	tcagtgcggg	300
tgtcacaca	ggacgtgtag	cacgaaatac	agtagttacc	gtaacagcgg	caaacggaac	360
gagaccctca	gccagtatag	cggtatctca	ggcaggtgca	ggggtatcca	caaccatgga	420
tacaagcaaa	ccggaccttc	cctcttccgg	aggagtcggt	aa		462

&lt;210&gt; 3001

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3001

catgattgtc	gaataccccc	gaaacagcat	gcgttttgca	agccggctgt	tataaataat	60
aagtttcatg	tcgatgtaat	tttaatgggt	gccgcaaagt	tcgcatactc	ttttcagggc	120
gtaaaggaca	tcctagttct	tatggaactt	ggaaaacacc	tcggacgggg	agtgaagca	180
aagcgaatta	aaaacagtag	aaatcattta	ataaattacg	attag		225

&lt;210&gt; 3002

&lt;211&gt; 639

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3002

attacgatta	gtatggcaaa	agcaagttgg	tgcaatgtaa	gccccatgtc	aggaagtggag	60
aacgggactt	taacaatcag	tgccggcagca	catgccggac	gggaggcccg	cagtacgaca	120
gtgaccgtca	cggtctaaaa	cggaacgaag	ccctcggcca	gtatagcggg	atcacaagcc	180
ggcgtaggag	tgcaattaac	gatggatacc	tctaaaccgg	atttaccggg	agaaggaggg	240
tctgtcacta	ttaacgggaa	ctctaacagc	ccgacattga	aaatatcggt	tcctctgatt	300
aactttccgg	gggttaccgc	ttccgcaaaa	ttcaatgctc	cgggaattac	tgacaaagtg	360
cttgccgcct	cagagacggt	tactatccca	ggagaccccg	gagcgaacgg	ttcttatgcg	420
ttttccatca	aactggaaat	agccccgaat	ccgttgccca	caccgttagc	tcctaattgt	480
gacgtgactg	atagtgcagg	aaaaatggta	aggtgccaat	ttaaatgggc	agcgggagca	540
tctgctcttt	cgggtgaacaa	gtcctcgcta	tcgcttggtg	atgtagggac	aggacaaacg	600
gtagacgtta	cctccaatga	cgaatgggca	gtatcataa			639

&lt;210&gt; 3003

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3003

ctaaaacata	gtgaaccaac	catctgtaat	ggcgtttata	ttattattaa	taaaagaaag	60
gagatcggac	ttatgaatac	cgaaaaagag	aaaacttcat	cagaagaaca	aaaaaaggct	120
gaaaaagtgc	ttaaagacaa	agttcccgtg	cagcaaaccg	gaacctacag	cgaagccacc	180
aagaaagaag	tgcgcgacgc	agtaaaaagag	ctcaatccgg	acatgagcgg	attggatagg	240
ggttaa						246

&lt;210&gt; 3004

&lt;211&gt; 1305

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3004

cctgctgata	gactgaccgg	aattataaac	tgcaaatcga	aaaaacaaaa	taatatggat	60
attaaaattg	aaaagaaacc	ctggtacatc	cgctataaat	tctacatagc	cggaggaatt	120
gcatttgtcg	cttttccttgt	ttacgtcatc	attctgtcgg	ccgggccggc	caagctccgc	180
atcgagtcgg	aaaacataca	gatagccgaa	gtcaaagatg	acaagtttat	ggaatacgtc	240
gatgtggaag	gattgatata	gcctattctc	accattaaag	taaacacccg	tgaagcggga	300
agcgtagagc	gtatcatagc	cgaggaaggc	agtttgctcc	agaaaggaga	tacaattctg	360
accctctcga	atccggactt	gctgcgtagc	atcgaagacc	agcgggacga	ctgggagaag	420
caacgcatac	cttatcagga	gaaagaaatc	gaaatggaac	agaaaagcct	gagcctgaaa	480
caacagacgc	tggaaaccaa	ttacgaactg	gcacgcctga	aaaaaagttt	cacgttggac	540
aaagaagaat	tccgcattggg	catcaagagt	aaagcacaac	tcgaagtgtc	ggaagacgaa	600
tacaattaca	aggtgaagaa	tgccgaactg	caacgcgaag	gtcttcgcca	cgattcggcc	660
gtgaccatca	tccgcaaaga	tctgatacga	accgatatgg	agcgggagcg	taagaagtat	720
gaacggggcca	cagagcgtct	gggcaatctg	gtagtgaag	cacccatcag	cggacagctg	780
agctttgtga	aagttactcc	aggacagcag	gtgggctcca	gtgaaagtat	cgccgaaatc	840
aaagtactcg	atcaatataa	gatccatact	tcattgagcg	aatactacat	cgaccgcatt	900
accaccggac	tgctgtctac	tgtcaactat	cagggtaaaa	agtatccgct	tgcatacaca	960
aaagttgtgc	ccgaggtaaa	agaccgcattg	tccgacgtcg	atctggtctt	caccggcgaa	1020
atgcccagata	acgtacgtgt	aggtaagagt	ttccgtgtcc	agattgaatt	gggacagcct	1080
gaacaagcca	tcgtcatccc	acgcggcaac	ttctatcagg	ccaccggcgg	acagtggatt	1140
tacaaagcca	atgcatctag	aaccaagcc	gtacgtacgc	ctatcaccat	cggacgccag	1200
aatccgcaac	aatatgaaat	taccggagga	ttagagcccg	gagattatgt	cgttacaaca	1260
ggatatgata	cctttggcga	ggcagaagaa	ttaatactta	agtaa		1305

&lt;210&gt; 3005

&lt;211&gt; 1290

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3005

aaaactgggc	ttatgaaacg	ctattccatc	agtgtggtgc	tgacacattct	attgttggtg	60
gtgctctcca	tcggaggata	cttgctgttc	tgttacgaat	tatggttcag	cactctgatt	120
gtgggcatcc	tgtctatcgc	tacaggcggt	catctctatt	ccatccagat	gaaattggca	180
ggcatgatga	gacgaactgac	agactgcata	cgcttcaatg	acatgacgca	gaactttcag	240
ccgccgttta	aaagcaagat	gatggttgaa	ctggcggacg	aactctctca	gacacttagg	300
ttgttccgcg	gacgcctgct	cgaggaagag	atcaagcacc	agtattacga	gaacctttta	360
aataaggtag	atacggctgt	ggtggtgact	gaccgttcgg	gccgagtgga	atggatgaac	420
cgtgcggccg	tggcactggt	cggacaagaa	tcccggttgc	ctcaggagtg	gctgaccacc	480
tcctggaacg	agacgcagggt	ggtacgtatc	cggcagcaag	gagcctcggt	agagatggcg	540
gtatcatgta	ctttgtttgc	cgcacaaaat	aaggaaaggc	tggtggtcag	cctgaaaaac	600
atccattcgg	tattggaacg	taacgagatg	gaagcctggc	aaaagttgat	acgggtattg	660
acccatgaaa	taatgaactc	tatcactcct	atcatttcat	tatccgaaac	attgagtga	720
cgcggaatac	ccgaacggct	cagtgaagaa	gaatacggag	tgatgttgca	agccatgcag	780
accatccatc	ggagaagtaa	agggctgctc	ggttttgtgg	aaaactaccg	tcggttgact	840
cgtatcccca	ctcctgcccg	cacattggta	gcggtggacg	aactcttttc	cgacctaaag	900
aaactcttcc	ctgattcggt	cattcatttt	gcggaacac	acaggggggc	cactctgtac	960
attgatcgtg	cccagataga	gcagggtctg	atcaatctga	ttaaaaatgc	caaagagtcc	1020
tgcggaacaa	atactgcacc	gcagatagaa	gtagagttgg	aacagggtccc	cggaaaagtt	1080
tgcagctctca	cggtgcgtga	caacggcgaa	ggcattcttc	cggaaagtga	agacaaagta	1140
tttgttccgt	tctttacgac	caagccatcg	gggtccggca	tcggactcag	tttatgtaag	1200
cagatcatga	atctgcattg	cggcaccatt	acagtctcct	cagagatagg	gaaaggaagc	1260
tgctttacac	tgatgtttcc	gggaagatag				1290

&lt;210&gt; 3006

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3006

gtattttatta	tggtcttctat	taaattgtat	ttcgacaaaac	gtgtgaatag	gaaagatgga	60
aagtttctctc	ttaaaattaa	tgtcacacac	aaaaggcagc	aggccttaat	caatcttggg	120
gtttttattat	ctccagatca	gtgggattcc	acaaaaggaa	aggatgatcaa	tggtcctaac	180
aagtcattcc	ttaatggcta	tatctcccag	cgagtgcatt	gtgctgaaac	ggaattattg	240
aatttaagga	ttgccggaaa	gttggactta	atgacaggaa	aacagttcaa	ggagcatctt	300
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&lt;211&gt; 2949

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3010

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&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3011

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&lt;210&gt; 3012

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3012

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3013

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3015

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 <213> B.fragilis

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 cagggtggatg gtattggtat cgggtgtccct tcaattgtag atgtggaaaa aggtatcgtg 240  
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 <211> 408  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
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<210> 3023  
 <211> 1194  
 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
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 <212> DNA  
 <213> B.fragilis

<400> 3027

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 <212> DNA  
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&lt;210&gt; 3031

&lt;211&gt; 582

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3031

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&lt;210&gt; 3032

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&lt;213&gt; B.fragilis

&lt;400&gt; 3032

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caatag

1146

&lt;210&gt; 3033

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3033

tcaggatgta	tagtctttac	tcaatattgc	tttctatttg	ctcaaaaatc	tttctttttt	60
gtgacgcata	ccctattttt	ttcttttgtg	atagaagttg	tttattgtat	atatatgcaa	120
aaggaaaatg	tttttgagag	tctgaataat	atgttattca	cttttttgcc	cataggaagt	180
gaataa						186

&lt;210&gt; 3034

&lt;211&gt; 1446

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3034

aaaaacggtg	ttgcacat	gcagcacc	gaaaaggg	ggtgctgcaa	aaatgcaacg	60
ctgattttta	ggttatcttc	agggcggagg	ttacatttgt	cctacccttt	atggaggggag	120
atgcaaacaa	aatgtataag	attattttaag	atagtgaat	tgggaagctg	ccaacatatt	180
gatagcagg	gttgttttac	ttttgtaaac	cagttaaaag	taaagaagaa	gatgacatca	240
attacaccac	ggctcaatcg	ctcgcgcgag	gggcgtgatg	gcagttatcc	gcttgtgata	300
caaattattc	gccatcgaaa	gaagagagag	atttatacgc	cttaccgttt	ctgggaggca	360
gagtttaaca	cccggttaga	aatggtggag	aacgtcggag	gcaatcgccg	tcgtctgctc	420
attgtccgcg	aagccaatga	ataccctata	tatataaaga	aggagttaga	ggctatttgc	480
agatcgcttg	aagcggataa	ggggagtgtc	tatacgggtg	acgacattgt	gaacgtttat	540
aactaccaca	atgatctgag	ccagggtgtg	gtatatgccg	actcggtgat	tgccgggctg	600
gagaataagg	gacgtcaggg	tacggctgcc	aattatcgta	gcgcccgccg	tgcgtttgag	660
atgtttttgg	atggcagacc	tttttcattt	gaggagtga	ctcccgaagt	gctggaccgc	720
tttgtcacct	ttctccgtga	gcggggcaac	cggcccaata	cggtttcgtt	ttatctccgt	780
cagtggcgtg	ccatctacaa	tcgtgcctgc	gccgatcatg	tggttttttc	cgatcaaaag	840
cctttccgac	ggctgaacct	caaagaggag	gtgacatcca	aacgcgccat	ctcccgggag	900
aagattgcgc	agatcgaatg	tgtcgacctt	actgcttgct	atgctgatat	gcagcttgcc	960
cgtgacctgt	tcctgttttag	cttctatac	gcgcgaatgt	cctttgtaga	tatgtgctat	1020
ttaaataagg	agaacctgca	gggaaattat	cttcggtaca	aacggcagaa	gacagggcag	1080
gagttacaga	tacgcattga	aaaagatttg	cgtgtgttaa	tcgacagata	cgccagccct	1140
ttgtcggact	atctgcttcc	aatgcttcga	aacggtgacc	gttatcagga	ttatcggcgc	1200
aggcagcgga	ggcttaataa	actgattcgt	gaattgggcg	accggttaca	gttggatatg	1260
ccactcacat	tttatgtggc	gcgccactca	tgggcgacac	tcgctcacga	aaatgatgtg	1320
cccgtctcgg	tgatcagcga	ttgtatgggg	cacacatcgg	agaagactac	ccgattttat	1380
ctggatcgca	tagacactaa	gcggcctgac	cgggcccaacc	ggttggtgat	taatagtctg	1440
cggtaa						1446

&lt;210&gt; 3035

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3035

cataatgcc	tggaaaaaat	aattttatta	gttttgccat	ttttcgtctg	atcatgcggc	60
ctagtgaac	aacaggcatc	tgcaccggag	cctgtcaacg	tcattgtctt	caatattcgc	120
tatgataatc	cggagacag	tctggacaat	tggagataca	gaaaggatcg	tgtggcaaat	180
gctattcatt	tctacgacgt	ggatatattg	ggtacacaag	aagtgccttc	taaccagttg	240
gaagacttga	agctgcgttt	gccggaatac	ggcgtggttg	gagtaggccg	tgaagacggt	300
aaagagaaag	gagaatacag	tgcacttttg	tataagaagg	atcgtttcaa	cgtgcttgat	360
tcaggatatt	tctggttgag	cgaacacccc	gaagtagccg	gttcaaaagg	ttgggacggt	420
gcttggtgagc	gtatcgcttc	atgggtcaaa	ctgcaagata	aggtttccga	taaagaatat	480

tttgccttga	ataccatct	ggatcatgtg	ggggggatgg	cacgtcgtga	aggtataagc	540
cttatgctgg	atagagtga	tgagttaagt	gatggattac	cggtaattgt	gaccggagat	600
ttcaattcag	aaccggaatc	agatgtgac	aaacacgtca	cagattctgc	caatccggaa	660
catctgacgg	atgctcgcca	ggcatcttcc	attgtttatg	ggccttctcg	gagctttcat	720
gatttcggaa	agattcccta	taacaaacgt	ccgttgattg	actatgtatt	cgtacgcaac	780
ggtcttaaag	tcttgagata	tggtattttg	gctgaaacgg	aaaacaacgg	ttttttgtca	840
gaccatacgc	ctgtactggt	aacggttgaa	tag			873

&lt;210&gt; 3036

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1026)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3036

actaaaacaa	tatttcccat	gctgaaacac	atthttgttta	catgcttctt	tttctttacg	60
gcaattccgt	tgctgaaagc	tcagggctgt	ggcaatgatg	aaaaatatca	tttgccttat	120
aaaaacacgt	atgtaaaaga	acctttggta	gccgagaacg	agtaccgcat	agccaaaccc	180
gaaaccgttg	aaccgaagag	tttcgaagaa	gcccggcaga	ttcttcctaa	tcctatttgg	240
gccggacacg	aaaaggaaact	tgaaatgtat	tggagagcat	gggaaatagc	tgttggcaat	300
atccgtgctc	ctcaacaggg	gtcagggttc	gtatcaagtt	atctggatac	ggcttacaac	360
ggtaatatct	ttatgtggga	ttcttctttc	atcctaattg	ttgcacgata	tggtacacgc	420
ttcttccctt	tccagcgtac	attggacaat	ttctatgcca	agcagcatcc	cgatggtttt	480
atctgccgtg	aaataaaggc	cgacggagcc	gattgcttcg	agcgttacga	tcgggtcagc	540
actggctcta	acttgatgcc	ttgggtgtgaa	atgggtttatt	attaccagtt	cggtgatagc	600
gaacgcctgc	ataagatatt	cccggtaact	tgtgcgtatt	acaagtggtt	gaaactcaac	660
cgtacgtggc	gtaacggaac	ttattgggtca	agcggatggg	gaaccgggat	ggataatatg	720
ccccgtgtgc	ccgaagggtta	tagtcctatt	tacagtcatg	gacatatgat	ttggctggac	780
accaatctcc	aacaactgtt	tacggccaac	ttgttacttg	agatgggatt	ctatctcgaa	840
cgttggcagg	aaatagagga	attcgaagat	gaggctaaga	tgtaggggaa	gtatatccat	900
gataatcttt	gggatgaaaa	gaccgggtttt	ctgtatgacc	aatatgctga	tggtacactc	960
tgcaaaaacaa	aaggaatagg	tgccatttgg	acattgctca	ctgatgtgtt	ggatgataaa	1020
cagctngacc	gtatgggtgaa	agaattagat	aatccggcaa	cgtttatcgg	aaatttcgta	1080
ttccctcttt	gtcggcagat	catcctaagt	ataaagagaa	cgggcgttat	tggaaggtg	1140
gcatatggcc	gggtaccaac	tatatggtga				1170

&lt;210&gt; 3037

&lt;211&gt; 2148

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3037

ccaaataaaa	taacccta	gaatatcaaa	agatttttgc	tattggggat	aatggcccta	60
tacgccatta	ttccggcatg	gggacaagcc	cagaaagtag	aaatacgcgg	aagcgtaatc	120
gatgacgagg	gagagcctgc	catctctatc	gtaatcagag	atcagaatga	aaagggagat	180
gtatacggca	tcacagacct	cgacggaaag	ttcaagatca	tggcagatcc	caatacgacc	240
ctgcatttct	cggtatttgc	ctacgcatac	aaaacggtaa	aactaaaagg	aaagacaacg	300
ataaacgtag	tgatctcata	cgaagcatcg	atgattgacg	aagtgggtgat	caccgcaaaa	360
aaagtgggtg	acaaactgct	accggaacca	accgacatcg	aaatcgtcgg	aaatcaatac	420
atcatccacc	ctaaagtaaa	aattcccaaa	gaaatgtata	agccgaatac	acgtatcgta	480
gtgcaaccga	tggttggtgaa	tattaccctg	aaaacacaga	gcctgttccg	cccggcagtg	540
gtgaccggaa	aggagtatgc	catcacattg	gaacgaatga	tgggaattcg	cctgagcaga	600
gatccgttag	cagcttttca	ggagaaaaacg	caaaagattg	ataagaatga	agtgattgcc	660
tacgtagact	ccctctatat	ggataacccg	gacgatgaat	gccgggtgtga	catctacatg	720
tatctggtag	aataataaaaa	actggcatac	aaagatacgg	tagtgatagc	caaaggtacg	780

gtaaatccga	tgcgtttctt	tacgtacca	gcagatggca	tgaaaatcag	agatgaaaa	840
tacatcccta	aacctcaaaa	acaacaaaga	ggcgacagag	gagaagtga	gctgaacttc	900
ctgatcaact	cggcaacgat	agacgaaaa	gatccgaaca	accaaagaga	attggagaaa	960
atgcgcttgc	gcctgcagga	aatagaaacc	gatccgaact	cggatttcct	gtcgttttcg	1020
gtcaaagggg	tatcttcgcc	tgaaggtccg	tatcaatcga	atctgaaact	ggcacaaaa	1080
cgcacggaca	gtacgttgaa	acgtatcttt	gtgttttctga	acggagggtac	tataaacgca	1140
ataaaagaca	gtacatatata	agaaggagt	gtggcctcat	gggaagaggt	agcagaattg	1200
atggaacgcg	actcactgcc	tacagacaag	ttacgggaaa	tcatcaattg	ctatccggac	1260
aacatggcct	cacagtacag	cggatccta	cgactaccgg	aatatcgga	tgtcattcta	1320
acgacttact	taccacgggt	gcgccgggtg	gaatatagtt	tcaactattc	ggtgatgaga	1380
ttgctgaacg	atgaagaaat	acgcataatg	tataaacagg	actataaaaa	attggtaccc	1440
tatgaatttt	ggcggatata	cctggatgcc	gataatgact	ctacacgcga	agtgatctgc	1500
cgacaggcac	tggaaacaata	tcctaaattt	atgattatgg	ccaacgaatt	ggctgcgttg	1560
ctgatagaac	aaaagaaagc	agacagcaaa	ttgctggaac	cgtttgtcag	cagatcggct	1620
cccacagaac	tactctgtaa	tcaggtaatc	gccttaatgg	acgaaagagc	ttataaccgg	1680
gcggactcga	ttatagactt	tctgccggac	aacgacatga	cacaagacgt	aagagccatc	1740
gttggagctt	ataacgggca	ttttgaggat	gcttatgaac	ggttcggaac	gcaaggcggc	1800
ataaatgaag	tggtattatt	aatggccatg	aagcaaaatg	aagaagcatg	ggaaaaggca	1860
caagaactac	cggatgaacc	actcagctat	tatctaaggg	cggcatgtgc	caacaggttg	1920
gacaaagtga	gcgaagcata	cgctttcatt	aaacgggcca	tgaacgaaga	tccgtcactg	1980
aaagagattg	cgcagataga	cggagacgta	accgacctac	tgaacagtt	ggaagatgaa	2040
aagaaagaac	tgaaggaaaa	agcggagaaa	acaaaagaaa	aaaacgaaac	ggaagacacc	2100
gaaacggaag	agagcggctt	gaatgaagaa	aaaacgataa	agcaatga		2148

&lt;210&gt; 3038

&lt;211&gt; 1464

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3038

tatcaaagaa	tcatgaaaaa	attaattatt	tttttattcg	tgttgtcggg	ttgtgtcccg	60
gctgtggttt	ttgcgcagca	acaattctct	tttaaagatg	ggaagtttaa	aattgcccaa	120
tttacggatt	tgcattggac	accccgatct	ctggcgtgta	ctgaaacaga	agcgaccatc	180
tgcgccgtct	tgaagcggga	acatcctgat	attgccatat	tgagtggaga	tgtagtaact	240
gaagatcctg	ccattgatgg	ttggaagtct	gtgattcgta	tcttcgatga	agctaagggt	300
ccttttctcg	ttactatggg	aaaccacgat	gcggaacaca	tggcaaagga	cgatatctat	360
gatcttcttc	tggagtctcc	ttattatgcy	ggagcaaaag	gaccggaagg	catcatggga	420
tgtggttaatt	gtgtgatacc	ggtttatggc	tcgagaaaca	gagagaaagt	agaagcattg	480
ctgtattgta	tggactctaa	tgactatcag	ccggacaagc	tttacgggtc	ttacgactgg	540
attcactttg	accagatagc	atggtatcgc	aagcaaaagt	cccgtttttac	caaagaaaaac	600
aatggaaacc	ctgtgcccg	attggctttc	ttccatatcc	ctttgcttga	atacaacgag	660
atagcagggtg	atggaaaagac	tttcggtaat	aacagggaag	gtgaagtgcg	ttctgcgaat	720
atcaattccg	gcattgtcgc	ttcattttatt	gatatgaagg	atgtgatggg	tgtatttgcg	780
ggtcacgac	atgataatga	ttaccttgga	attaacaaag	gcattgtact	tgggtacgga	840
cgtgtaaccg	gtgcggatgc	ttatggtgaa	ctgacgaggg	gagcacgcat	catcgaactg	900
tacgaaggga	aattcagggt	tgatacatgg	atcactacac	cttcgggacg	tgaagcgacc	960
tattattatc	cttcgggctt	gaattcagag	gaagaacgga	ccgcggacta	cctgccggca	1020
gtaaagaatg	tatcttcacc	caaacaaggg	gtggcatata	cctattatga	aggaaagtgc	1080
aagcgggttg	ccggcatcgc	ttcttgtctt	aaagtaaaag	aagggttat	gaagaatatt	1140
tcgatcaaag	aggctgccgt	tgcaaatcac	tttgctatg	acttccatac	gttgatacag	1200
attcccgaaa	aaggaaatata	cgttttctat	acattctcgg	atgacggttc	aatgctttat	1260
attgacggta	aattgggtgt	tgataacgac	ggtggacata	gtgccgccc	cgccgaagga	1320
aaaattgctc	ttgaaaaagg	ttttcatgag	ttgcatttat	tgtattttga	ggattacatg	1380
gggcaggaat	tggaaagtagg	attctccgga	ctggattttc	cggaaagttc	tctgcaggat	1440
gaaatgctgt	tcttaccgaa	ttaa				1464

&lt;210&gt; 3039

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3039

tccggcaacg	tttatcggaa	atttcgtatt	ccctctttgt	cggcagatca	tcctaagtat	60
aaagagaacg	ggcgttattg	gcaaggtggc	atatggccgg	gtaccaacta	tatgggtgatg	120
cagggacttg	taaagaaggg	atatcataaa	ttggcccggg	agattgcttt	gaatcattat	180
gccgaggttc	tggaggtata	taaaaataca	gggacatttt	gggaataacta	ttctccggag	240
aaagcggagc	ccggatttat	ggcgagaaaa	gaatttgtgg	gctggactgg	gcttcctcct	300
attgccgaac	tgatagagtt	tattatcggc	attaggggag	attatgtcaa	tcaacagata	360
atctgggata	tgaatttgac	tgaaactaat	ggaatagaac	gttatccttt	cggttcggaa	420
ggaatcataa	acctgaaagc	tgaggcacgt	cgttctgcaa	atgatgaacc	acgtatcgct	480
gttgatacga	atatcggttt	tgagttgctg	gtgctttatg	gtggttaagga	aaagaaggtg	540
aatgtaactc	ccggtaagca	tacctattaa				570

&lt;210&gt; 3040

&lt;211&gt; 543

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3040

tcgacagtag	tcttttttct	ccttgaaaag	cggctgaaag	taccggattt	tctctggtta	60
cttctcaatt	ttgattggcg	caaactctgtg	aaaatgtttc	tcttttatgc	cgatctcttt	120
aatgttgtct	ttgtgtttatg	tgctttttgc	tgtctttatt	gtaatatgta	ctttgttttt	180
gtttctttct	gtattcttct	aatgctgatt	tacgggcttt	tttccagctt	cccagtcagt	240
cgggcaggaa	aaacaaattc	tatcgcagggt	aagatataca	atttgacaat	tgtcagattc	300
ttgctccgac	cgtttatcga	aagtataagt	caatctcttt	tgattaaaga	tgcagcaggg	360
atgtattctt	atatttctaa	gcaagcacaa	gtccgcattc	gtttcatgtc	tttctataat	420
gtatatactt	ttcttatctg	tcacatgggg	cgtgagatgt	cgttttcacc	ttgtccgggc	480
tgttcagaga	cccggttatg	cgatattacg	tggtttccat	gccctctagg	ggaagccgga	540
taa						543

&lt;210&gt; 3041

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3041

caggctccgg	tgcagatgcc	tggtgtttca	ctaggccgca	tgatgcagcg	aaaaatggca	60
aaactaataa	aattattttt	tccatggcat	tatgtcatta	attattttac	aaacaaggct	120
gaagtaggaa	tcggtgctaa	ttcctttgca	gaagggaagt	tccagaacca	gcttaaatgc	180
tccccttcat	aa					192

&lt;210&gt; 3042

&lt;211&gt; 1656

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3042

actaacttat	taataaaaaac	agttatgaaa	aaatatatac	cattattggc	gttatcggca	60
ctaacctttt	gctcttgctc	tgacttttta	aatgtgcagc	cggaaggtaa	tcctgccact	120
acatcctatt	ttttgaatga	tgaacaagcg	attgatgcca	ttgacggact	ttatgctcct	180
attcatcagg	aaaaaggctt	tggacgtgag	ttgttttggg	aacaagggtgc	tgcttgtgat	240
atagtatggg	ctaaatcacg	tggtttcaac	tcgttagcta	cctttaacta	taacggtgat	300
gaaagtccca	tcagtgggtg	atttgactta	ttctaccaaa	atatggctcg	ttccaactgg	360
attatcaagc	agttgcttgc	caaagagaaa	aaagggtggac	taagcgatgt	agaacatcgg	420
agtttgggtg	aagcttttct	tatgcgtggc	atggcgcat	tttggtattgc	ttaccgttat	480
ggaacgaaa	accaagggtg	accttttgtg	cgctacgaag	atthttgagg	cgattatgat	540
aattccatac	ctccacagca	ggcttctgta	atagacaatt	ataagtttat	tatagaggat	600
atggataatg	ccattttctta	tttgccgaaa	ttcgaagaat	attcagatga	tgataaggga	660

cgtgctcaca	aagctgccgc	tgtagcctat	aaagctaagg	tatatgccta	ttgggctaca	720
tgggatgaaa	ctcaatggaa	caatgtaatt	gctatggtta	attctctgga	aactgattat	780
ggacgtgggt	tggctgatac	ttttgccgaa	gtgttctctt	cggagtttac	ggatttttgg	840
aataaggaat	atatttggtc	tattccttcc	aatggtggct	ctacaggcgg	cgggtgtgaa	900
ttccccggag	tgatttttgg	agataaagct	tggggtgtgt	ataatggctg	gggccacata	960
aagccttctt	acgatattta	tgaagaaatg	gcaaaagacg	gtgctggtaa	tgatcgtctg	1020
gtgcgttcta	ttttggaata	taatcaagag	ttcgaatttt	ttggtgagaa	acgtaaattc	1080
tatactgata	caaacttgga	tgtaggtttc	cagattaata	aatatatgga	cccgttcaaa	1140
cataaggatg	ccgatactaa	aggatacgtt	aacacaaatg	gcaactggcc	cactgctcgt	1200
gtaaatttcc	cattgattcg	ttttgcggaa	atgctgctgt	tccgtgccga	agcctattta	1260
atgacagatc	aacctggtaa	agcgaagaa	gatttgaatc	gtatccgcag	acgctctaata	1320
ttgaaagagt	taatagatat	gcctactatg	gcggatttat	atcatgaacg	acgttgtgag	1380
ttggcttttg	aatatactga	ccatctgttt	gatttgaaac	gttggcatcg	ctcgtcaaata	1440
gttgtaataca	aagaattggc	tgcaaaagaa	ttgaatgccc	atcctcgtat	ccgtaagtat	1500
gcggaccgtt	ctaataccgga	gtcaactttt	acaatagagc	catatgccga	ctatctgaat	1560
aagactcctt	atcaagatta	tatgatggta	tttccttata	cggctgaaca	aattactaaa	1620
tcaaacggta	agttgatata	aatgacggt	tattag			1656

&lt;210&gt; 3043

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3043

atgttttcat	tgtgtacgag	attgccttgt	gcacgcaggc	agaccacctt	acaaccgggtg	60
cgaaagccgg	gatcgatacc	cattaccctg	ttttgtccca	agggtagggc	agaagcaggt	120
tggcgaggt	tttcggtaaa	gaccggatc	gcttcgtcat	cggcctgttc	ttttactgag	180
ggaggcaaat	tgggtttcga	tggaaaggtt	cagcagacgg	cggtaggcac	ccgcgctgat	240
gacagcctgg	cgggcaagaa	gattacgcac	tgcattacgg	gcacgttcgt	cttcgctcac	300
ctcgggtgtc	atttgcattg	gagcgatttg	ctcttaagcg	ggttgttttt	cgccatgggt	360
gccattgtcg	aagaaactat	gatgcgcgga	tatgttctgg	gacgtttgtt	gcgtacgcgt	420
ctcaataaat	ttattttctc	tctcatctct	tcccttttgt	ttgcgttgct	tcattctgatg	480
aatcccaatg	tggctttttt	acccatgtct	aatctggtgt	tgggaggggt	gttactggga	540
gcttcttata	tttacacccg	taatcttttg	tttctgttt	cgcttcattt	cttttggaac	600
tggattcaag	ggcccgtact	tggctatgaa	gtcagtgcca	atcgtttctg	tgaacacctg	660
ttttcacttc	gcctgcctgc	aaataatctg	attaatggag	gggcatttgg	ttttgaagggt	720
tcgtttggtt	gtaccgtatt	ggcaacactc	tttacactat	tcattatctg	gtggttcgaa	780
caataa						786

&lt;210&gt; 3044

&lt;211&gt; 1599

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3044

aaaataacat	taaaaataga	acgaaaagaa	tgttttcgct	tgcgatcttt	gtcatctaaa	60
agattttcta	taacttgcca	caagtttatt	acaaagcaga	acagtagaag	tatgaacata	120
aaagagatac	taaaccaatc	cgaagggcgt	agatttgaat	ttaaggcaga	gttgccggag	180
cattccgatt	tggctaagac	ggttgtggca	tttgccaatg	atgcaggtgg	cgacctgtat	240
attgggtgtg	cagatgatcc	tcgtgaagtg	gtaggatttg	atgaggacaa	attggtgact	300
atcgaggaga	aaataagtaa	tattattttt	gaccgttgct	atcctgcgat	attgccggaa	360
ataaaattta	taagcgaaga	aaacaaacac	ttgattcagg	tgactgtttt	cagaggtagc	420
acgccacctt	attatctcaa	agagaaaggt	aagttacaag	ggacatttat	tcgtgtaggc	480
tcggccaatc	gacttgcgga	tgaagctatc	atctcggaat	tggaacgtcg	gagacgaaac	540
atctcttttg	atagcgaagt	tataccagat	aagcctgtaa	atgatttgaa	catagatggg	600
tttaaggcta	tattcaagga	gaaaacgggg	gaagaattat	ccgaccaagc	attaaggaaa	660
ttagacttgg	ttaaagatat	gcaaggagca	gaatatccga	ccaatgcgtt	gattctattc	720
tcggacgacc	cgttgcgtaa	ctcgttggtt	cactatgcaa	aggtggagtg	tgctcgtttt	780
aaaggtgtta	gtatcgatga	tttcatagac	caaaagagta	ttacgaccaa	tattgccaca	840

caagcagagg	aagcatacaa	ctttgtgtta	cgccatatca	ataaagggtgc	ttcgggttgag	900
ggagtgtaca	cagtatctcg	ttgggagtat	cctgttaagg	caattcgtga	ggcgattcgt	960
aatgcgggtg	ttcatcgga	ttattctctc	acaggaaaag	acgttaagat	tgcgatctat	1020
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gaggtattgc	gttgatatagt	aagtaatgct	ttatcaaggc	aagatatatc	ccttgcatcg	1440
ggacaaaaga	aagtatcggg	acaattaaat	aaagttattc	aaaaactgat	tgccaacaac	1500
ctgattgaaa	gaactatccc	tgagaaacct	aaccatcctg	ctcagaagtt	tcgactaaca	1560
gaacgtggac	agttatttct	tggtttactt	gctaaatga			1599

&lt;210&gt; 3045

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3045

gtggccagtt	cccggaaagg	gaataaaaaac	ctaaagcatt	ggaggtattg	gatattccaa	60
gccctattat	acacctgtac	tgaaaagctg	aagggttctg	tgaatgggg	tttacttcgt	120
tgtgatgctg	attattttatt	cattcgcaat	acgggtgaag	gatacatatg	ggatgaaaca	180
ccgattttta	taagaataat	gccccaaagt	tggaacaaaa	aatag		225

&lt;210&gt; 3046

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3046

gaaagcagat	ttgttaacga	gcttggaac	ggaacatcaa	ggctcaccat	tccggtaa	60
gacctgatga	actattatgt	ggagtatttt	cacataagca	aacagaacgg	gttggttgaa	120
tattgcaata	aggcgattgt	tactttacaa	cagaaattgg	ataaagaaaa	agataatttt	180
aataaaagaa	tcaacagttt	gctatag				207

&lt;210&gt; 3047

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3047

tatgggaagc	cagctcgtgg	caggagcggc	caacagcgtc	atcaacgcca	ccaagtcggc	60
ggcaagcaag	aatatccgga	aggtaaagg	gacaatcaag	accaactacc	gcatactgct	120
cagacagtcg	aaagagttag	gaaggaaaga	gcctgtcggg	gctgtccgat	gacagcagat	180
gctgcccggc	tcttgaagga	atttgatcag	ataaagaacc	taaaaacgat	gtga	234

&lt;210&gt; 3048

&lt;211&gt; 1611

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3048

aatttgaaaa	cgcataaaga	agtaacttca	aataaaagta	aaacactgga	ttttgtaata	60
agtaaaacaa	tgaaaatatt	tagatatata	ttgctcgcct	cgcttacctg	tacgcttttc	120
tcatgcggcc	cggatgaact	gataccggaa	tccgtgccac	cgggtggtgaa	tcccggggat	180
aaggacgagc	cgggtgaaga	accggaggag	cgggaagagc	ctgcaaagat	acagctgggc	240
atcacggcat	cgctgcagaa	catgcagcag	accaggggaa	tcatagaggc	ttttgctccc	300
ggccatgaaa	tgggagtcct	tgtcggaaaca	agtcagacag	atgaagcagc	aggtataaaa	360

aacgcctcct	atctttttga	tgggaaagta	tgggaatgccg	gacaggatgt	accggtggaa	420
gcggacgccg	atgtggtggc	atacctgcc	tataaccggg	aagtgaccga	tttcaagagc	480
gtacctttcg	acctagcgg	tcagaatgac	atcctgtacg	gagcgccaa	agtgacaaa	540
gatgtaccga	cggccagcct	gatgatgcaa	cacgccatga	actgggtacg	tatgcggctg	600
atgaaaaacg	aatatatggg	caccgggctt	gtctcggaca	tgacattcgc	cgggtgtattg	660
acatcaggaa	cagtcgacgc	cctgaccgga	gcggttacga	aagattataa	tcacggcccg	720
ggttcggtaa	aagtcggagg	aaactacatg	ctcaatgacg	agaatcccgt	cattgtcgat	780
gccatcatga	tcccaagggc	agcgtatgac	gaacaggcct	ccgtcagttt	tgtcatcgac	840
gggcaaaagc	acacatatgc	cttcccggta	cagcatgaat	ggaaagccgg	catgaaatac	900
acctacaccc	tgaaaatgac	aggaaactac	aatgcgccgg	tcaacaagga	gcaggtggat	960
atcgacgtcg	aatatggggg	acagtatggc	aagaccgatg	atattgtact	caatccgaat	1020
cgggaagact	acgaattttac	catctggcca	aattatactg	catatggtta	tgactgtac	1080
caaaatgaag	gcaagggtatt	cgggacattc	tattaccctt	ggtgcggcac	ttcgggaagt	1140
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attgacatca	agacgaatgg	tggatgggat	ggcaagcgca	tccagtgtta	catcacctcc	1260
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agggcagcgg	attatgatca	cggcagtagc	gattgggagt	ggctctatga	agtcaaagca	1380
cccgaccggg	atgatctgcc	ggcattgcgc	atgatggagg	tggaaggaca	gggatatacc	1440
tcaattcttg	tatatcccg	cctgacgag	acctcatgga	atctggtata	tactttatcc	1500
aataagggag	aaaaagccct	gagagggcga	ataaaagcgg	tctgggagag	ggaattcaag	1560
ctgaagtcca	actcgtatcg	gccaagtgac	aaaaaaaaag	gggctattta	a	1611

&lt;210&gt; 3049

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3049

gaaggagaaa	caatagatgt	attcatgtat	gtatcggatt	atgtgtctct	ttgcatcttt	60
ccttgtgtct	tttttgcttt	aaagatttat	gataagcttt	ccaaaaaaca	aaaaaatgga	120
aaacaatatt	cagaccgaga	acaaggcaca	ataataaccg	gatcaagtaa	tccgcttttt	180
cccaaataag						189

&lt;210&gt; 3050

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3050

atggaaactg	cgtttgccgg	ttatgggatg	aatccggatg	ccaaagccgc	tgctcttcct	60
gaacctgtct	ttcaggggac	aggtgagcgg	aatcctgtcg	gatactccgt	accgggagag	120
tatatcccg	tagctttcca	gtgtctccag	acgttcgcac	ctctccagtg	ccttgtcgag	180
cagttccttt	ccgtcgtttg	a				201

&lt;210&gt; 3051

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3051

ccggcaaacg	cagtttccat	tcaggatattg	acatgggcgt	ggagctggca	gcccccggtt	60
tacgccaccg	ctcgggggaa	ggtttctttc	gcgagaagga	aaggggggta	cgaaagatgt	120
gtcattatac	gccattctta	tggctttgaa	acgctgtacg	ctcacttagc	cgcgtattac	180
accacagaag	gtcaaaaagt	cgacagaggg	gctgtaaatcg	cgtttgcggg	aagcacggga	240
aagagtacgg	gctaccacct	gcattatgaa	atcagaaaaa	acggtaaaacc	tataaaacca	300
tactgggtatg	gctatgacga	ttga				324

&lt;210&gt; 3052

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3052

tcgggaagag	cagttcgaga	aaaaagcccc	cggcctgtta	aaaagcaacg	ccaatcactc	60
attaacatac	agatgcgcac	caccgcacga	cggggggcaa	agaccctcgt	cgcggaatgc	120
gctttttatc	tgtatatgaa	tgattggcct	tgcaaagata	aaaaaatatt	cgctatgaca	180
ctgtttgaga	ttctaaattt	taatagggaa	gtcctggaac	gtctggccgg	tatgggcttc	240
aaaccggatg	actataagta	catcgacctg	tataaggagt	atgaaaggat	gcgctgccag	300
ggtgataaag	tgacgtattg	tgttgcggtt	ctttccaacc	ggcacggcgt	ttccgaacgc	360
aaaatctatg	agatcctggg	aagggttcaaa	aaagagtgtg	cgtttcatgc	agtataa	417

&lt;210&gt; 3053

&lt;211&gt; 327

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3053

aagggagggc	aaagcggagc	tgatgaaatg	cctgtacctg	gaggagaggt	attttaccga	60
gtttctgaag	ctgtcgggac	aggaggaggg	attatgacca	ccctttcagt	tatcagctat	120
atagagagga	tcaaccgggt	gtaccggctg	atccggatgg	aaaggaccgg	aagcctggac	180
gaactggcct	ccttgctgcg	ggtaagcagg	cggacaatca	acaattatct	ggaggagctc	240
cgctgatggg	gtgccgagat	caagtttagc	agaaggcaaa	accccatatt	atttcaagaa	300
caaattcgta	ttgcacgcga	cgggttaa				327

&lt;210&gt; 3054

&lt;211&gt; 1239

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3054

acaacaacta	aaaacaaaaa	atatacaatg	gaaaccatac	aggaaattat	agatacaata	60
aaacaatggc	cggccaccat	atggtgggtt	atgggagctc	ttttcattat	ctcctggttt	120
tgggatactc	caccgagaaa	gaaacgaaat	aaagataaaa	tgacggatga	taagaataac	180
gacttaaaaa	gttcaaatat	gactgataaa	aaagaattta	aaggcaacct	gatgaaagaa	240
ggcatttttg	tgtgggtcgt	attcgcaccg	gatggtaagg	ccggtttata	tatggatggt	300
gagaaacacc	ttgaaaaatg	aacatatgcc	tatggaaacc	ggctttccac	ggatgtatcc	360
tcctttcatg	aaatctgtaa	tctggataac	aaaccctgtg	acctccactt	tccggaacac	420
gggattttcag	tacgctaccg	gatacgctt	cgatattccc	gaacagacga	tgccggtata	480
gaaagggtcgg	aacatgaacc	ggaaacatgc	cttcctgcat	ggattgtaag	agggaaaaca	540
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tccggattac	cgggattgcc	ggacctgcaa	cgggacggta	tccccgtaag	gatcgagatg	660
ctgataagga	aggcatatcc	gttttttgac	ctagttaagc	cggcttcttg	gagaagctgg	720
ggaatcagca	gtaatccggc	atccctgaaa	ggaaatttct	ttgtaaacc	cggggaggga	780
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tcccatgacg	tgccggtttt	acataagatc	tttaacctgg	aagaaatgct	cctgttccgt	960
catttcccaa	aacggggagt	tccgcagagg	atcagaatgc	agctgcgggt	tcccgaaca	1020
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gtcgtaccgg	aagaaaagcg	cgggatcagc	ctgtaccttc	aggaacaact	gtccggagaa	1140
tgtgacatc	aggatataag	cgggctaccg	ggagcaccga	aactgcagcc	gaatggagtt	1200
ccggtcaggg	tagagatact	gctacaacag	gaaggctga			1239

&lt;210&gt; 3055

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3055



agaatttttaa	aactatgtga	tatgatacag	gaaattatag	atatgataaa	agagttatcg	60
ggaagcgaca	tactctgtct	aagcttctat	tgtggattta	ttctaatact	gtcacacaga	120
agtaatgaaa	aggcatctgt	gtatggagaa	gaaaaagtcc	cggataatag	tccggaacct	180
gaaaagtaa						189

&lt;210&gt; 3056

&lt;211&gt; 408

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3056

agccgacaaa	atattaagga	ggatagcccg	atgaaactac	tgctggccct	attgctttcc	60
tgtctcccct	tcaatggatc	aaacgacgga	aaggaactgc	tcgacaaggc	actggagaga	120
tgcgaacgtc	tggagacact	ggaaagctac	cgggatatac	tctcccgtta	cggagtatcc	180
gacaggattc	cgctcacctg	tcccctgaaa	gacaggttca	ggaagagcag	cggctttggc	240
atccggattc	atcccataac	cggcaaaccg	agtttccatt	caggatttga	catgggctg	300
gagctggcag	cccccggttt	acgccaccgc	tcggggaacg	gtttctttcg	cgagaaggaa	360
aggggggtac	gaaagatgtg	tcattatacg	ccattcttat	ggctttga		408

&lt;210&gt; 3057

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3057

aaacgatgtg	atatggaaac	tatttgggaa	aaagtggatt	acctgggccg	gatattatgc	60
tgcattataa	tgggaattgc	atatatactt	ataatgatag	cccctcttta	tgcttcacgc	120
cacgaacagt	ctgggcaaa	aagtgatgaa	aaggcatttg	tggaatgaaga	agagaaagtc	180
ccggataatg	gtccggaacc	tgaaaagtaa				210

&lt;210&gt; 3058

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3058

gaattttgct	gcccggaaat	acaaacacat	atattacacg	acaaaatgat	tatgaaaaag	60
gaaaagactt	actcccgtgc	tccgcttcct	ttcgtgggac	agaagcgcat	gttcgtatcg	120
gaattcaaaa	agatactgaa	acattttgat	gacaaaacga	tatttgtcga	cctgttcggc	180
ggctccggcc	tgctctcaca	catcaccaag	cgtgaaaggc	cggatgcggt	ggcatatac	240
aatgaccatg	acaactaccg	cggacgtctg	gaaaacatcg	gccggacca	tacctttctg	300
ggagatctcc	gtaaaatagt	cgggatatat	ccccacaatc	agaagattac	cggaaaaatg	360
cgcgaaagctt	tccttgaacg	catccgcctg	gaagagacaa	ccggtttcgt	ggactatctc	420
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tatttcacct	cctccaaatc	ccccatactg	gatttctgca	aatggatgga	ggaacatccc	780
ggaacaggca	atcctttcaa	ggggaccggc	cgctctgcaa	ttaccgcacg	gatgaattac	840
aactcctcat	ataccgatat	catgctttac	aacaatatgg	cttgtactgc	ctga	894

&lt;210&gt; 3059

&lt;211&gt; 816

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3059

tcaaggagat	gcaaacgtat	gaaaacaatt	acaacagcat	gtgtgaacca	taaggagagt	60
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gtcgcaaaaga	caacctcgct	gctgaacctg	gcagccggga	tcgcacggat	gcataagaaa	120
agggtctgca	ttatcgatgc	ggatccgcag	gcgaatacga	caatggcagc	gttcggggag	180
gaaatggcaa	gtcttccccg	ggaggttctg	ctcgagagt	cgctacagga	ctgtatgcag	240
gacactccgc	cgaagttaaa	gccgcaaaag	tggctggaga	agggtggacat	actgccggcc	300
tccctggatc	tggcggctac	ggaagtgatc	atgtacacca	cacccggaag	ggaattcctt	360
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ccatcattgg	ggatcatcac	gcagaacgcg	ctgatggcaa	gtgattacgt	gatcatacct	480
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gtctttgaaa	cggtaatacg	cagcaatgtt	gccttgggag	aggcacaata	caaggcacag	720
agcataattg	actatgcgcc	ttcgtcaaac	ggggctgatg	actacaggga	gctggtcaag	780
gagttcctgg	gcagaattaa	aaaaataaat	aaatag			816

&lt;210&gt; 3060

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3060

ccagcaatac	gagctcttat	gacacgggaa	gggaaaagca	gaacagccat	actggcgggc	60
ctggcgattg	tagtagtcct	gctggtgtgg	gtaatcatcg	ccagcctgcc	cgactccggg	120
agcaaggagc	cggaaacggg	tgaggtgatc	ctcagaacgc	ggatcaagga	gagttttacg	180
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ggtttcgacc	cggtaacgga	ggagcctgcg	gacacggccg	ggaatgaaag	ggagatccgg	300
cgcatacagg	agctgatccg	ggataacgag	cgggagctcg	gagcgggaat	tacggtcccg	360
gtacaacagc	cggttgcttc	cgggggaaag	gaaaaacctg	ccttgacagg	aaagaaggaa	420
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aggggattca	acacggtagc	gctcgtcagg	caggaagaga	ggaatgccat	caaggcgctt	540
gtacactcca	cacagaccgt	catggctcgt	tccaccctca	agatgcagct	ggccgaaaac	600
tgcctgaccg	atgacggaca	gcgcacccgc	aaagggactc	ccgtattcgg	ggaggtgacg	660
ggcatcaatg	gtgagcgtgt	cctggtaaag	atcacctcgg	taaacctggg	tggaaatata	720
ctcccccttg	ataagcaggt	ttattccgag	gacgcaatac	aaggaatcta	tgtaccgggc	780
aatgtgaagg	cggagacagc	acaggaggcc	ggagcggcgg	gaataagcgg	cgcgaaacac	840
aatatctccg	gaggatttga	tatgggaagc	cagctcgtgg	caggagcggc	caacagcgct	900
atcaacgcca	ccaagtcggc	ggcaagcaag	aatatccgga	aggtaaagg	gacaatcaag	960
accaactacc	gcatactgct	cagacagtcg	aaagagtga			999

&lt;210&gt; 3061

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3061

aagaaaggca	ggattatgaa	agactttaca	tcgaaaggaa	tatccctgga	aaacatggtg	60
ggagaaaacc	cgggaaaaga	aaaaggatat	acaggaaaaa	catcacccaa	aacgaaccag	120
accgttgcac	tgacggaaga	tctgaaatgg	gagttacgga	cgttcgcttc	ggaccatcgc	180
tgcaggggag	tcaagacact	gcttgaaacg	atgatagaat	gtttcgctcag	ggaagacggt	240
acgcttgacc	gtgacaagtt	agaaggcttc	tggcgggaat	atgtcgaaaa	ataa	294

&lt;210&gt; 3062

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3062

aatatgaaaa	gaatacttac	actgatattg	tcgtttttgt	gcctgctttc	ttttgtaagc	60
tgcgaaaaaa	aggaaattgc	cgacactttt	gaagcaaaca	tccggaaaact	tcattggagat	120
tacaggctga	ctgatatcca	ttggcccggc	ctggcagttg	acctgaacca	tgacggtata	180

gggcactggg	cgctattata	tgaattccag	aataagatcg	gctattatga	gcctgactat	240
accgccagcg	tatctgacgg	catgggtat	tctcacgatg	aaacctgggc	aaggcctgca	300
accgcattca	atctgaccat	tccatgtccg	cgttatattg	tctcagaggg	gaaatgggta	360
tgctcaggaa	tccatggcat	ccaggttact	ttgcgtgctg	atgtggattc	cttcagtctg	420
cagtcaaatt	gcagcaggat	atttcccgca	tacaatgacc	gggatgacgt	tttcctggcc	480
aacatcaaag	atatcagcct	ggttgctcctg	tcatatgatg	ccgcgtcatt	cagaatcggc	540
gtgcattgca	cactccctta	cgaccgtcct	gacggaacac	aggagctgaa	cgagaattat	600
ttgtattacg	agtattcaag	gtag				624

&lt;210&gt; 3063

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3063

gaaaagaaaa	gcagctgttc	attgatcttc	cctgcgggta	tcacctacgt	cgattacgga	60
agcacgaacg	tggaggtgga	caagcccag	ggggtggata	atatcctggc	cgtaaaagcc	120
gtccagccct	ataaggagga	tacgaacata	tcggtcgtac	ttgaaggggg	aaagttctac	180
actttcgacc	tgcgctatgt	gcccgtcca	gagcgtttca	gcttcgtcat	tgacaaggag	240
gatacgcaga	gggtggccat	actcgacgaa	aaggaaacgt	cttacggaca	gaaggaaagg	300
atcagggagg	ctatcgcgaa	acgtaccccg	ctggatctgg	gactgaagga	caagaattcc	360
ggtgtggagt	tcgaggtcgg	aaatatcttc	atcgacgggg	atatcctgct	gttcgcgatg	420
acctgataaa	accgcacaca	gatcggttat	acgacggatt	tcatgcggtt	ctacatccag	480
gatgccaaga	tccgcaaaaa	gacggcggta	cagcagctcg	agcagaacat	cctgttcaact	540
ttcgattatc	cggaagaagt	accggcacat	gaaagccgga	cattcacctg	ggccatgaac	600
aagttcacca	tccccgataa	gaaacggctt	atcatcgaga	ttcaggagaa	gaacggcggc	660
cggcacttcc	tgtataagct	gaagaataag	tcgctcctga	cggcggagga	agtattcaga	720
agcagaaagc	aacaggaaac	ggaggatgaa	gccgacaaaa	tattaaggag	gatagcccca	780
tga						783

&lt;210&gt; 3064

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3064

gtagatatga	gactaaaacc	aatttacatc	accaccctgc	ttctcctgtt	tttcctttca	60
gggagagcgc	agaagatcga	ggaactcacc	gcagtccccc	tgcagatcgg	gtatgaaaag	120
accctgcacc	tgatcttccc	tactgaagtg	aagtattaca	gcacgcggag	ggattacgtc	180
atcggtgaga	aagtgggtcaa	ttgcccgggg	atcatacgcc	tgaagcgggc	ggaagagaa	240
ttcccggggg	aaacaaccct	gtcgggtggt	acggccgaca	caaagttcta	ttcgtactcc	300
atcagctaca	acgcacatcc	ggcccagagt	tatgtgcgta	taggcggaga	agctcccga	360
ccggaatacg	ctgccggtag	gaaaagaaaa	gcagctgttc	attga		405

&lt;210&gt; 3065

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3065

aaccatactg	gtatggctat	gacgattgaa	caggaaatag	aacagctggg	actgaagtgt	60
atcgcattgg	acgggctgaa	ggcctgccc	aaagaccttg	ccttccttga	gaaatacggg	120
ctgaagaacc	tgtatttctt	ttccctggaa	tacgcgatgg	aagggaacgg	tgacacgggt	180
ctcgacagta	aggcgaaagg	ggtgatcaga	tggtaacctt	attcgacgga	ttttcccttg	240
ctgcggcaga	agtatgaaag	ggagggcaaa	gcggagctga	tgaatgcct	gtacctggag	300
gagagggtatt	ttaccgagtt	tctgaagctg	tcgggacagg	aggagggatt	atga	354

&lt;210&gt; 3066

&lt;211&gt; 195

<212> DNA  
 <213> B.fragilis

<220>

<221> unsure

<222> (42)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3066

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atagtttggg	tagaaagcca	tatagtgaac	ggtaagttta	tagccagtaa	acttgggggtt	120
aaacttacac	cgccaaataa	tcccgggaata	ccccataaac	gtcgggggttc	aatagcatgt	180
attcaaatgc	cataa					195

<210> 3067

<211> 198

<212> DNA

<213> B.fragilis

<400> 3067

caggccgggg	gcttttttct	cgaactgctc	ttcccgatta	aaatcccctg	gaaattcctg	60
ctttcatatg	gctctatatc	tttaaagacc	gcaagatata	acacatgggt	gcaattttat	120
tgcgctgtag	cttttcccat	gaaagaaata	cgttatttaa	ctaagtattc	tactttaaag	180
agtatattac	taatatag					198

<210> 3068

<211> 1182

<212> DNA

<213> B.fragilis

<400> 3068

caaaagagta	tgatacatcc	attattaaca	accattaaaa	aacgattcat	tatgaagaaa	60
gtaagatttt	tactgttggc	cgcaatggtg	gccatgttta	caggatgcca	gaaagaagtg	120
gtggaacagg	agttggataa	caacaaaccg	acccctaccg	gtgatacgcg	catcatcatc	180
gagggagaag	ggatgatagg	tccggcaacc	agatcctcgg	acgggaaagt	ggagtttgaa	240
gggggctatg	caaccggagc	agggctatat	gatggtaaaa	aagccgttcc	agtggaagcc	300
catcctgatg	cggatatga	agttaattat	ttctatggcg	gtccggaaaa	ccaacctaaa	360
aagttatgact	atgcacagtc	aggaacatcg	gcttttaatg	tttatttaga	agggcaggat	420
cacaccttcc	actgtggatt	caaagaaaag	aaacgtgatc	taacagtga	tgccggaacc	480
ggagggttcg	tgtccccatc	aggtacaaac	agctaccgcg	tggagaagcc	gatcagcatt	540
acggccaccc	cggacagcgg	atatgaattt	gccggttgga	cagttaccca	aggtgatgta	600
acgattgaga	atcctggcag	cccggtacc	accgcgaccc	tgcataatga	taacagtacg	660
attactgcaa	actttaaatc	cggcgctgag	ttgggtattta	ctgtacgtgc	cagcgcaaat	720
aaaattgtgc	cgatgccgac	tctgggttcc	ggtccttata	ctgttgatta	tggggatgga	780
aaagtagccc	acgaggtaaa	ccttcgtgct	cggggatata	ctcaatatcc	tggcagttac	840
catacatact	cagcagatgg	ggagtacact	gttacaataa	agggaccggc	tgcgactgct	900
ttttcattca	gaggtacacg	taacagtgac	cttcagtata	taaatccctg	tccggcaaaag	960
tctattttta	agaatacgat	tgatataagt	tgtgtaacgt	cactggagga	tgcttttagc	1020
ggaatgaaat	cattggaaaag	catagaatgt	gatttggttag	aaagttgtaa	aggaagagtg	1080
acaacttgcg	ctaatathtt	tgatcaatgt	acaaatttgc	ataccattta	taatggattg	1140
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<210> 3069

<211> 426

<212> DNA

<213> B.fragilis

<400> 3069

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cggagtgcca	tggatggcgg	tacctcact	cagaatccgt	actttcctga	tgtcatcgcc	120
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gtcgatgata	ttttcaaact	ccgtcttgta	gacaacgccg	agttacagcg	catcgccata	240
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cagggcacgg	gcacgggtttt	cctgaaggga	aaggcctgtc	tagcttggtc	acgaaatatg	360
cccttcctgc	tggagtgcga	ttttcaggag	gtttctgtac	aagaggccct	ggctgattgt	420
ccttga						426

&lt;210&gt; 3070

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3070

aggaggtat	tccacatttc	cggcaaagat	gttatccagg	aacagttctc	aaagcaagag	60
gatacatttt	caatcgccct	gcaattctca	aaaacattac	cgggtacagt	agtaacatgg	120
gactgccgga	aagttccccct	gaaaaaagtc	gcctttacgc	attttgcgaa	taaacgttcg	180
gggaccgtac	ttatgttcag	cagctcaaaa	gtggaagcaa	actcttgccg	atttacgcaa	240
tcatcaaaca	atcctgccgg	aattgataaa	atattaggtg	tagccgagaa	ggtagaatta	300
aactttacgg	ccgaggtaca	tcctctgaat	gtatttgctg	gaatagaatt	aagggctgca	360
taa						363

&lt;210&gt; 3071

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3071

caaaaaagat	cacatttttca	tagtgttatt	ataaatattta	cgtatatattg	taatcaaaca	60
aaaatatcat	atacacaac	aagaatacca	aacttattaa	ttatgaaaaa	gctattatta	120
accactctgt	tgatcttcgg	aacagccatc	gttcacggac	aggacaaaat	gcaatttttca	180
ataataggag	gatatgaaca	cttcaaaaaa	gaaaatccac	acaaccaaac	tgccggatat	240
ggtttaggtt	gcgagttcaa	gtattatttc	tataacagac	tctatgctct	ggccaacttt	300
catgcaggta	tttataatga	attcacacct	cgaacagcca	tggcggaaat	aggcgaagtg	360
gacttctcaa	tgcactggag	aactcgcgaa	tataaagggt	gagccggaat	gggaatcgat	420
ttactaaaga	cacagagaca	taatataatc	acgcaagcca	catttggtg	agccaaactc	480
aaacagtctg	ttccgggtat	ccacagttat	agaccaacag	tggaaatggg	aactaaaaat	540
acctaactac	tccgatacgc	cacctccatc	tcaataggat	atgattatcg	ggtagtataa	600
tctttcagta	taggcctcaa	ttatacaggc	tgggtgggtg	cagacgtcgc	atacaggaac	660
acgctaaatg	ccaaaattgg	ctataatttc	tag			693

&lt;210&gt; 3072

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3072

tttctatata	cggtaagtcc	ggatactcct	ttattcattt	ataaaataac	tcttatgaaa	60
ataaaagtag	gttttggttt	cgacgtccac	caattgggtc	aaggacgtga	actttgggtta	120
ggaggcattc	ttttggaaca	tgaaaaagga	ttgttggtg	attcggtatg	cgatgtattg	180
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gggatcgatg	cagatgatata	ttccattaaa	gccactacca	ccgagaaact	tggtttttacc	480
gggcgggaag	aaggtatttc	cgcctatgca	accgtgctga	tcaatcgctg	gtga	534

&lt;210&gt; 3073

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3073

ggaaaaaatgc	ctatgctgat	acttttatct	tgtgccaaaa	ctatgagtga	cgtttcgaag	60
acaaaaacgc	ctctcactac	atttcccggc	ttccggaagg	aggcagcggg	ggttgctctg	120
cagatgtcac	aattttcagt	cgaggagtgt	gaacggctgt	taaaggtgaa	tcctaagatt	180
gctgttgaaa	attatagacg	ctatcaggct	tttctactcg	agggtacacg	ggaattgcct	240
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tttgaattta	acgaacagct	ttcggacgag	acaaaatatg	tatttacaaa	cggaaaaaca	780
gaatga						786

&lt;210&gt; 3074

&lt;211&gt; 1434

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3074

ggccaaaagt	ttaattttta	ttcgaataag	aaaatgagca	cagaaaacga	agaatggcgc	60
gaagactcca	agagtgagaa	tacggacgcc	ggcgtgatg	gtaacagaag	ttttaacaga	120
gaaggcggat	acagtcgtcc	ttcatacaat	cgtgaagggtg	gcgaccgtcc	ttatcgtccg	180
agatttaata	gtaatagtga	agatcgctct	cagcgttctt	atgggtgatcg	tccgcaacgt	240
ccttcatata	atcgtgaagg	tggcgaccgt	ccctatcgtc	cgcgttttta	cagcgagggg	300
ggtgaccgtc	ctcagcgttc	ctatggcgac	cgtccgcaac	gtccttcata	taatcgtgaa	360
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caacgtcctt	catacaatcg	tgaagggtgg	gaccgtccct	atcgtccgag	atacaataac	600
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catgcggatg	ccatcagtta	ttctgacgag	gtgaagcgtg	atcaagtggg	catcgaaatc	1260
cactccggaa	agaatcgtat	cgtccgtcgt	atatttgaat	cgttggtgta	caagggtggg	1320
aaacttgacc	gtgtattctt	tgccggactg	actaaaaaag	gattgcgccg	tggtgagtgg	1380
cgttatctta	cagaacagga	agttaacttc	ctccgcatgg	gatcttttga	ataa	1434

&lt;210&gt; 3075

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3075

aagataaggt	tgggaaccac	ttattcactg	gatcatcccg	agaaattcct	gtcggaaaaa	60
gccatcgccc	gccgccagcg	tcagcagttg	cctgtcgact	ctaccgatct	gccggtctgc	120
cgtcggtatg	tggatgccat	ccgcgacagg	ggagtgaaga	ttgtggctat	gggaaatgg	180

gataatttcg	tcaactgtgtc	atgtaacgac	agtgcctgta	taggcgaaat	tgccgcactg	240
cctttttgtgc	gtgctaccga	aaagatatgg	gttgccccgt	cgaaacctgc	agcgggaagat	300
aaacgggact	ccctggcgaa	cagtcogctc	aagagtgaga	actactacag	tcctgccttc	360
cggcagatag	aaatcagtta	cggcgaaaaa	ttgcatgaag	ccggatttaa	gggacaaggt	420
atgaccattg	ccgtgatcga	tgccggatat	cataacgtgg	acaagataga	ggctatgaaa	480
aacatccgca	tcctgagtac	gaaagatttc	gtgaaaccgg	gaagcgatat	ctacgccaaa	540
ggatcgcacg	gaatggcgt	tctctcctgc	atggcgatga	atgatcctta	tttaatggtg	600
ggtacgggtc	ccgaagcctc	ttattga				627

&lt;210&gt; 3076

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3076

atcgtaaaaa	ccgtaaataa	aatgacatca	caaaaatcac	agaacagcaa	tatgctgctt	60
gcattcctca	ccctgctggg	agttattgta	ctggttgacg	ttgtcgggtt	cttcatgctc	120
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gaagtcaccg	cacaacgtaa	tgcagccatc	gcaaccgaaa	aagcggcaaa	ggcccaatac	540
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aaagcaacca	agaccaccgg	ccagttcgac	ttgaaaacat	tcgaagtaaa	agcgactccg	960
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&lt;210&gt; 3077

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3077

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gaattacagg	tgagatttga	acatgccaa	aagttattgg	cacgaatgcg	gtgcttgagt	120
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ggcggggctg	tcgtttgtcc	cggcgtgacg	ataggtgacc	gttgtgtgat	cggagccggc	480
agtgtggtga	caaaggatat	accggacgat	tgtgtggcgg	taggtaatcc	tgcacgtgtt	540
attaggtgtc	ggatgtaa					558

&lt;210&gt; 3078

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3078

gatagtagtt	attcaataga	acgttgccgt	agtatgaccc	tggaagagat	attgcaaata	60
gaagcacaga	atgttgattg	tatttttctg	tatcaggaag	aaggagcatg	gtatgcttat	120
gaacattctg	cttttttattg	ttattctctt	ctgggcatac	ttgatatacga	ctggttgcc	180

tgccccgatg	gagtctcttc	cgggcagaaa	acaatcaggg	tacgtgtttc	cgaaccggat	240
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ttgtgtaaga	tttcgtgtgg	aggtttttat	tattggcggg	aacagcaaca	aatgaaattt	360
cgtgtattac	aggaagaga	aagctcttgt	acgaagataa	atgaacatgc	tgaatga	417

&lt;210&gt; 3079

&lt;211&gt; 1437

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3079

tctctttttat	acaaactttc	tctcccttta	tgccttataa	ctcaggaaaa	agagttaatt	60
ttgcagcctg	ataattatct	aaacgacaat	atgaaacttg	atttacttac	ggccatctct	120
ccgattgacg	gccgatatag	aggcaaggct	gaagcttttag	ctgcatatct	ttctgaatat	180
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&lt;210&gt; 3080

&lt;211&gt; 1929

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3080

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&lt;210&gt; 3081

&lt;211&gt; 1035

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3081

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&lt;210&gt; 3082

&lt;211&gt; 807

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3082

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gagcatgggc	tttccctgct	tgttgaagcg	ggggaacaca	aagtgtctgt	cgataccggt	120
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aatgtgattt	cggcctttct	gggtatgaaa	cttcccaaac	gtctgggagt	ctgtcactgt	720
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<210> 3083  
 <211> 849  
 <212> DNA  
 <213> B.fragilis

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aaccgttttg	gtattcctgt	atttggatc	gttgatacta	actcggatcc	tacaaacatt	600
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gaggcttaa						849

<210> 3084  
 <211> 282  
 <212> DNA  
 <213> B.fragilis

<400> 3084						
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aaagaatcag	tatatattgaa	gtataagaag	actcagatat	ggcaaaccac	aaattaccgg	240
gaatacccca	agctgaacaa	gctctgttgt	atgccaaaact	ga		282

<210> 3085  
 <211> 720  
 <212> DNA  
 <213> B.fragilis

<400> 3085						
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<210> 3086  
 <211> 483

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3086

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ggtagcgaac	acaaacacga	tgctcagaac	ccgaaagcaa	ttgatataaa	ctcacttaaa	480
taa						483

&lt;210&gt; 3087

&lt;211&gt; 759

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3087

atgggaaaaa	ataaattaga	gaagtttgcc	gatatggcaa	gttatccgca	tgtctttgag	60
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&lt;210&gt; 3088

&lt;211&gt; 1461

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3088

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&lt;210&gt; 3089

&lt;211&gt; 1263

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3089

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t						1263

&lt;210&gt; 3090

&lt;211&gt; 2046

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3090

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&lt;210&gt; 3091

&lt;211&gt; 1383

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3091

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tga						1383

&lt;210&gt; 3092

&lt;211&gt; 675

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3092

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aatgaaatag	aatag					675

&lt;210&gt; 3093

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3093

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&lt;210&gt; 3094

&lt;211&gt; 501

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3094

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ccggaagaca	ttgtaagata	a				501

&lt;210&gt; 3095

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3095

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&lt;210&gt; 3096

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3096

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&lt;210&gt; 3097

&lt;211&gt; 819

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3097

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 <212> DNA  
 <213> B.fragilis

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 ttttctttga attggcaaac tatttctgtc tttttttgga tttatccggg tgataacgag 180  
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 <213> B.fragilis

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<210> 3101  
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&lt;210&gt; 3102

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3102

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&lt;210&gt; 3103

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3103

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&lt;210&gt; 3104

&lt;211&gt; 2586

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3104

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&lt;210&gt; 3105

&lt;211&gt; 567

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3105

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gaaacaaatg	gaacagagag	aggataa				567

&lt;210&gt; 3106

&lt;211&gt; 462

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3106

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&lt;210&gt; 3107

&lt;211&gt; 243

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3107

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taa						243

&lt;210&gt; 3108

&lt;211&gt; 1773

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3108

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<210> 3109  
 <211> 960  
 <212> DNA  
 <213> B.fragilis

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 ggctttgcag cagttgcttc cgtggcatta cttttgtttt ggggcttttc tcaggaaaac 240  
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<210> 3110  
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 <212> DNA  
 <213> B.fragilis

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 <211> 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3111

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&lt;210&gt; 3112

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3112

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&lt;210&gt; 3113

&lt;211&gt; 1044

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3113

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&lt;210&gt; 3114

&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3114

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&lt;210&gt; 3115

&lt;211&gt; 1413

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3115

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&lt;210&gt; 3116

<211> 375  
 <212> DNA  
 <213> B.fragilis

<400> 3116

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<210> 3117  
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 <212> DNA  
 <213> B.fragilis

<400> 3117

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 <212> DNA  
 <213> B.fragilis

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 cagaacttac ggggtgcaatt ggatcgga aaacggggcg gcaaagtcgt aaccctaatt 180  
 accggctttg tcggcacoga gaacgacgtg aaagatttgg gaaaactcct caagacgaaa 240  
 tgtggagtag gcggatcggc taaagacgga gagattatcg ttcagggaga cttcaaacia 300  
 aaaatagtag aactgctgaa gaaagaagga tatacgaaaa caaaagcagt agggaggataa 360

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 <211> 618  
 <212> DNA  
 <213> B.fragilis

<400> 3119  
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<210> 3120  
 <211> 282  
 <212> DNA  
 <213> B.fragilis

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 gcagttgcct gtcgactcta ccgatctgcc ggtctgccgt cggtatgtgg atgccatccg 240  
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<210> 3121  
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 <212> DNA  
 <213> B.fragilis

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 ggtgagatgc attatgccg tatccctcat caatattggc gtcacgggt gcagatgatg 240  
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 gttgcccgag gtaaggatat acctttggaa gaacatcgag cttacaatgc taaaatcaag 660



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&lt;210&gt; 3122

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3122

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aaaaaaaataa	cttga					195

&lt;210&gt; 3123

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3123

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&lt;210&gt; 3124

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3124

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&lt;210&gt; 3125

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3125

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&lt;210&gt; 3126

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3126

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&lt;210&gt; 3127

&lt;211&gt; 825

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3127

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&lt;210&gt; 3128

&lt;211&gt; 2607

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3128

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ggagacgggt	tagttttccg	taactaa				2607

&lt;210&gt; 3129

&lt;211&gt; 279

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3129

gctgttcttg	caggactata	tgaaatttgc	atagaatatt	ttagagaact	tatttgtcgt	60
attcagggct	ttttaattat	ctttgttgca	atccgtcgga	acctgaagag	tcagtgttac	120
gaggaatatt	acacaaaaag	aacaaaaagc	tttttaagat	attattctgt	acttgaaatc	180
tggacaattt	cactattcag	gaataatgta	acgaacgctc	atgctctgct	gtatatgcaa	240
atatatagta	tcgagcgtgg	gttgtgttac	attatttga			279

&lt;210&gt; 3130

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3130

tatgacatgg	caaaaataca	aattaaatct	gagaaactca	caccttttgg	aggaattttt	60
tcaatcatgg	agaaatttga	ctccatgctt	tcacccgtta	tcgactcaac	actgggtcag	120
agatgcagca	gtatcttcgg	atatcagttc	agcgagatag	tccgttcgct	gatgagcgtt	180
tatttctgtg	gcggctcatg	cgtggaagat	gtaacgtcac	aactgatgcg	ccatctctcg	240
tatcatccta	cccttcgtac	atgcagctct	gataccatcc	tcagagccat	caaggaactg	300
acacaggaaa	acatctccta	tacttccgac	caaggcaaga	cctatgattt	caatactgca	360
gacaaaactca	acacattgct	tataaacgct	ttggtttcta	caggcgagtt	gaaggaaatt	420
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atccgtgccca	accgatgcag	ttcgtctctac	aatgacatct	ttgctctgag	aggatggaag	780
acggaggaga	ttaacggcat	ccagttcgaa	ctcaattcca	ttctcgttga	gaaatgggaa	840
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cctgccaaagt	ggatcatgac	tgcaaggcaa	tacgtgctga	atatctacac	agagaaccga	1260
gcttatgcaa	aacccttcaa	aacagaattc	ggataa			1296

&lt;210&gt; 3131

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3131

ataaacaagg	cttgccttgg	cacgaagtat	tcgatggaaa	tttggaactg	taatcaacat	60
aacaatatgc	ctaaccctaa	ggtaagtcaa	tcggcatatt	tattattgga	agaatcatca	120
aaaatgaacg	taggagataa	agccccagaa	ttgctgggta	tcaatgaaaa	gggtgaagag	180
gtacgcctca	acaactataa	aggaagaaaa	attgtccttt	atttctaccc	taaagataac	240
acttccggct	gtacggccca	agcctgtagc	cttcgggata	attacgcaga	gctacgtaaa	300
gccggatatg	aagtgatcgg	tgtaagtgtg	gacaatgaaa	agtcacacca	gaaattttatt	360
gagaaaaaca	atctgccatt	cacctgattt	gccgataccg	ataaaaaatt	ggtagaacaa	420
tttggagtat	ggggagaaaa	aaagctatat	ggcgtgctt	atatgggtac	tttacgcaca	480
actttcctta	tcaatgaaga	gggagttatc	gaacggatca	tcggacccaa	agaggtaaag	540
accaaagaac	acgcttcaca	aattttataa				570

&lt;210&gt; 3132

&lt;211&gt; 1224

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3132

attctttaatt	taaaattctt	aattaaagaa	atgggtagag	ttcttattat	cgggtgcaggc	60
ggtgtaggta	ccgttgtagc	acacaaagt	gcacaaaatg	ccgatgtatt	tactgatatc	120
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aacataaaaa	cagcccaagt	ggatgctgat	aatgtggacg	aactggtagc	actcttcaac	240
gatttttaaac	cggaaatggt	cattaacgtt	gcattgcctt	atcaggacct	gaccatcatg	300
gaagcctgcc	taaaagcagg	agtcaactac	ctggataccg	ctaattatga	gcctaaagat	360
gaagctcact	ttgagtacag	ttggcaatgg	gcctatcatg	aacgtttcaa	agaagccggc	420
ctcaccgcca	ttttagggtg	tggattcgat	ccgggagtaa	gtggatttta	tacggcatat	480
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ttcgatggaa	atttggaaact	gtaa				1224

&lt;210&gt; 3133

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3133

catgttcatt	acctctttct	tggtttcttc	cactacttcc	tcgttggttg	cgccgttcag	60
tttttccatc	tggctctgta	tgtagctgct	gcccataattg	gaggtcataa	tgatgattgt	120
attttttaaag	tttaccacac	ggcctttgtt	atctgtcaac	cgtccgtcat	cgagtacctg	180
caacaagata	ttaaatacat	ccggatgtgc	tttctcgatt	tcatcaaaca	atactacaga	240
atagggtttg	cgacggatcg	cctctgtcaa	ttgtccgcct	tcgtcatatc	ctacatatcc	300
cggaggcgct	ccaactaa					318

&lt;210&gt; 3134

&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3134

gaaatgaatt	tagaagaagt	cttaaattat	cgtcgttccg	tgcgggtggt	tgataaaaacg	60
aagccgttgg	accctgagaa	agtgaaacat	tgtctggaac	tggcaacatt	ggcgcctaac	120
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cgggatggaa	acaaaggaat	ctgggggtgaa	cggggcagag	taccgtttga	tgaagtttat	720
catagagttt	aa					732

&lt;210&gt; 3135

&lt;211&gt; 633

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3135

aacaactctc	ttctgatggc	aattaaaatt	ggaataaccg	gcggaatcgg	tagtggtaaa	60
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attcattacc	tttgctccgc	aaaaaataac	taa			633

&lt;210&gt; 3136

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3136

gttcctgagc	aacaaaaagt	tgcccaggat	tttgccatgt	cagaattttc	acttatctta	60
gtggtgcaaa	aagaaaaaca	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
ctgagaaact	cacacctttt	ggaggaattt	tttcaatcat	ggagaaattt	gactccatgc	180
tttcacccgt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

&lt;210&gt; 3137

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3137

aaaactaata	aaactgatta	ttttatgaac	ctattaactg	tattttttca	agctcctgct	60
gctggccctg	acggtagttt	gatgtggatc	atgctgatag	caatgtttgt	tatcatgtat	120
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aatgatgatt	acattgtttc	tgaaatcgct	tctaattgtaa	aaattaagat	agataagaac	300
tctatttttg	cagatgcttc	tgctgccaac	agtcagtcctg	ctacgaaata	a	351

&lt;210&gt; 3138

&lt;211&gt; 537

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3138

acgttttgaa	acagccggag	aaatcgccaa	aagcttctgt	ttggcaggta	tcgacatcac	60
gatgaatcag	ttcaacaaaa	aataattatt	cattttttcaa	ttcataatca	aatgcctgaa	120
gcaagaatag	ataaatggat	gtgggcagtc	cgcactcttc	aaactcgcac	aatcgctgca	180
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acaacccttg	atcaatatga	acttctggag	atgagtaaaa	tcagcggttt	tattgatcgg	420
gcacgaggtg	cgggacgtcc	aactaaaaaa	gatcgccgga	gcattgagga	atttaccact	480
cccgaattta	tggatgactt	cgattttgat	ttcgacttcg	aagaagataa	tgaataaa	537

&lt;210&gt; 3139

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3139

tctcttatga	acccaaaagcg	caatcaaacc	aaagtcgtaa	acgtgtttac	cgtatztatg	60
gtaatgctga	tattgtatgt	tatcgtggga	cttttcaccg	tcatcaatca	acaattccag	120
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atgctgaatt	tttcatgggt	tcttgccctat	cccctatccg	aaggattcgg	aacacgatgg	240
ctggaaaaat	acggataccg	aaaaacatct	tatcttgccct	tactgatact	tatcgccgga	300
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acatggctgt	tggtcatcgc	cggggaagct	tacattttgt	attatggcct	aaatggatac	1260
aaacaacatt	aa					1272

&lt;210&gt; 3140

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3140

acaattatga	aaacaatgaa	atztattttg	gcatgcgtac	tgctattgtc	tcctctgctt	60
tgccaggcac	aaaaaaactt	attcaacaag	tacaatgaca	tgaaaggggt	atcctctggt	120
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tttataatat	caggagatct	gttttatgca	aataataaac	cggttactta	ctttaaaaaa	540
ggaaattcgg	acaatcaaaa	agacatggca	gagttaagcg	gaacctataa	tttaaattcg	600
atagatacga	attataaaga	agaactaagt	accttaaacg	acaaattaaa	aagaattgac	660
caagggctca	aaaacatgaa	tataaagtag				690

&lt;210&gt; 3141

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3141

aaagatatga	aatacttaat	tgtcgggtta	ggcaatattg	gtccggaata	tcatgaaacc	60
cgccataata	taggttttat	ggtattggat	gcttttagcca	gagcaaaca	cctatcattc	120
acagatgggc	gttatggctt	taccactacc	ctatctgtca	aaggaagaca	aatgatcttg	180
ttaaaaccct	cgacattcat	gaatctaagc	ggcaaccccg	tacgttattg	gatgcaaaaa	240
gaaaacattc	cattagaaaa	cgtattaatc	attgtagatg	acttagcact	tcccttgggt	300
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&lt;210&gt; 3145

&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3145

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&lt;210&gt; 3146

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3146

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&lt;210&gt; 3147

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3147

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&lt;210&gt; 3148

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3148

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&lt;210&gt; 3149

&lt;211&gt; 1023

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3149

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taa						1023

&lt;210&gt; 3150

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3150

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&lt;210&gt; 3151

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3151

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&lt;210&gt; 3152

&lt;211&gt; 843

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3152

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&lt;210&gt; 3153

&lt;211&gt; 666

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3153

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&lt;210&gt; 3154

&lt;211&gt; 345

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3154

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&lt;210&gt; 3155

&lt;211&gt; 1629

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3155

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gcagaataa						1629

&lt;210&gt; 3156

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3156

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tttcgtgtta	ttgagattaa	aggtatgcca	atgctacgtg	agttctgttt	tgcacaaccg	840
caaggacagg	agagtgggtt	atcacaaagt	ttgatgcagt	ttgctatgca	tcataacaaa	900
aagttatag						909

&lt;210&gt; 3157

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3157

aatactgcat	taaaaaatgt	gattttatttg	tgtaaactca	ttaaaaaatgt	ctactttttgc	60
aattcgttaa	taacagtatt	aattaagatt	atgattaaca	gagttcttat	tcgtctaaag	120
atcatacaga	tagtgtatgc	ttactatcaa	aacggcagca	aaaattttaga	ctcagcggag	180
aaagagttgt	tctttagcct	ctcaaaggct	tatgatctgt	ataactatct	gctgatgctt	240
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ccgactaaag	aagagttgta	tcctaacatg	aagtttgttg	aaaataaatt	tgttgcacaa	360
ctcgaagtga	ataaacaatt	gagcgaattt	atagctaatt	agaaaaggac	ctgggctaatt	420
gatcaggagt	tcattaaaga	attatacgaa	aagattattg	catccgatat	atacaaggag	480
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aaaactttcg	tttttaataa	tgattcgtta	gatcaggtgt	tggaaagatca	gagttttatat	600
tggaaatgat	ataaggagat	tgtcgataca	tttgtattga	agaccattaa	gcgtttttgaa	660
gaaaaacagg	gagctaacca	accattgtta	cccgagttca	aagatgacga	agaccaggag	720
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agtgaaaata	caaagaactg	ggatttggat	cgtgtagctt	tcattggatgt	aattattatg	840
caatgtgcat	tagcagaaat	tcttagtttt	ccgaacattc	cggtcagcgt	ttcgttaaat	900
gagtatgtag	agattgctaa	actctatagt	acagtgaaaa	gcggtagcct	tatcaatggg	960
acattggacg	gaatagttaa	tcaattaaaa	aaagaaggta	agttgacaaa	aaactaa	1017

&lt;210&gt; 3158

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3158

cacaaaaaat	ttcaagaaat	gagatcaatt	gaagtaaaaag	gaactgcaag	aacaattgca	60
gaacgctctt	ctgaacaggc	aagagctttg	aaagaaattc	gtaacaacgg	tgggtgtacct	120
tgcgtacttt	acggtgggtga	agaagtagtt	cacttcacag	tgaccaacga	aggacttcgt	180
aattttggtt	acactccgca	tattttatgta	gttgatttgg	ttattgatgg	caaaaaagta	240
aatgccattc	tgaaagatat	ccaattccac	ccggtaaaag	atactatcct	gcacgtagac	300
ttctatcaga	ttgacgaagc	taaacctatt	gtaatggaag	tacctgtaca	gcttgaagggt	360
cttgctgaag	gtgtgaaagc	cgggtggtaaa	ttggcattgc	agatgcgtaa	actgaaagtg	420
aaagctttgt	ataatatcat	tccggagaaa	ctgactatta	atgtatctca	cctgggtctc	480
ggtaagacag	taaaagttgg	cgaactaagc	tatgaagggt	tagaattgct	gaatgcaaaa	540
gaagctgttg	tatgtgctgt	taagttgact	cgtgcagcaa	gaggtgcagc	tgctgcagcc	600
ggaaaaataa						609

&lt;210&gt; 3159

&lt;211&gt; 327

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3159

caggaggaat	tttgtttacaa	agaaagcgaa	aaaagaataa	gtaagatgaa	gatcttttggc	60
gaaaaagatg	tactttttaat	gactgaatta	aaaatagata	ctatgagtca	aaatgaaaca	120
acaaaattgg	acattattgt	agaagtatta	ggtgagagag	agccggagat	acgacgtttg	180

gttatcttgg	acgaccggtt	aaggatgttt	gccgaatcta	acgatgaaaa	tggtcggggc	240
atacctatcg	agttggtagc	ggagtgggct	acgctgctga	ataaatatta	tccgttggca	300
ttggaaaaac	ggaatatgat	gaattaa				327

&lt;210&gt; 3160

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3160

atttctaaat	ctatgaagcc	gaatcggaca	aaagaagaca	ttttactgct	ttcccaactt	60
cagcaaggag	ataaaaaagc	cttcaatact	ttgttcagaa	ggtattatcc	gatattatgc	120
gcttatgccc	accgttttgt	agacttggaa	gatgcggaag	aaatagttca	ggatgtaatg	180
ttgtgggttat	gggagaatcg	agaaatctta	ttgatagaat	catcccttag	tcaatacttg	240
ttgaaaatga	tatatcaccg	ttcattaaac	cgcacgcac	aaaaggaggt	aaagtatcgt	300
gccgatacat	tattttatga	gaaaagccag	gcaatgattt	atgacgtgga	tttctatcag	360
attgaggagt	tgaccaaaacg	gattcacacc	gcgatagtgg	agttaccgga	atcttaccgg	420
gaagcgttta	tcatgcaccg	gttcagagat	atgagctaca	aagaaatcgc	acaaactctt	480
aacacctcta	ccaaaacagt	agattaccgc	atacaacagg	cactaaaatt	attacgtaaa	540
gaactcaaaag	agttcctgtc	gttcgccttg	atattttctgg	cagcgtaa		588

&lt;210&gt; 3161

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3161

ttgagcggcc	ctgtgcagcc	ccgtgggtgaa	gacaatggga	cggtagtctcg	gtgggattgc	60
tccgtattac	ttgaaaatgc	cggatttaaa	gatgcttacc	ggacgaaata	ccctaattccg	120
gttacacatc	cgggctttac	attcccgtct	gataatgaag	gagtgccggt	gcagaaactg	180
tcgtgggcac	ccgatgctga	cgaacgggat	cgtatcgact	ttatttattt	catgccggac	240
aggaaattga	aattaaaaga	tgtatcgggtg	gtaggtcctt	caaaatcgat	cgtccgtagt	300
gaacgtgtgg	aggagagtgg	taaagattcg	tttataactc	cgctaggcgt	atggccgaca	360
gaccataaaag	ccgtaatggc	tactttttcc	ctgagataa			399

&lt;210&gt; 3162

&lt;211&gt; 1836

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1787), (1788), (1807), (1809), (1811), (1812), (1815), (1823), (1824), (1829)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3162

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agtcaataca	aaattatgca	aaattatctt	agcatccaat	tgttacgggt	ggtaaagtct	120
tcgctttggc	tgacctcgaa	aaaaattcca	aaaactatgc	gactattcat	cctattccta	180
atttgctcta	tgagttttgt	gcatgcgaca	gacagcttcg	cacaaaaggt	ggaaatcagt	240
attgatgcac	agaatcaaac	tgtagagaaa	gttctgaaag	aaatagaaaa	gcaatcgggc	300
tttggctttt	tctttaataa	caaacatgtc	aatctgaaaa	gagttgtttc	tgtttcgggt	360
gataaaagta	atatatttaa	agtactggat	aaaatccttg	aagggactga	cgtgaaatac	420
tccgttttgg	acaaaaagat	tattttgtct	actgaaatga	catcgaagca	acaacaagcg	480
gtgaaaatct	cgggaaaagt	agtcgatgtc	aacggagaac	cggtgattgg	tgccagtatc	540
gttgagaaag	ggaccaccaa	tggtacgggt	accaatttgc	agggtgattt	ctctctatcg	600
gtcagttcag	ataaggcagt	gatcgagatt	tcctacatcg	gataccagcc	tcaggaactg	660
aaggctcattg	caggaaaacc	attgaatgtg	acaatgaaag	aagatgccca	ggctttggaa	720
gaagttgttg	tggtaggtta	cggttcacag	aagaagggtga	atgtgattgg	ttcaattgct	780

gctgtggata	gcaaaaaact	tgaatccaga	actgcacca	gtgtttcgaa	tatgetgacc	840
ggacaactct	ccggagtgc	gacacacag	tcgagcggt	atccgggaca	agaccagggt	900
acgattcggg	tacgtggtgt	aggctctttc	ggagcgactc	ccgatccctt	ggtactggtc	960
gatggacttc	ccggcagtc	gaatgatttg	aaccggcag	atattgaaag	tatctctata	1020
ttgaaagatg	cctcgtcggc	cgccatttat	ggttcgcgtg	ctgcgaatgg	ggttgtagctg	1080
gtaaaaacaa	aagggtggcca	gaaaggtaaa	gttaccgtaa	gttataacgg	atatgtaggc	1140
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aataaggcta	tgggtaagga	agtttattcg	gcggaggaga	ttcagaagta	taaggatgga	1260
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ctgcaaaccg	gtcatgaact	gaccgtgaac	ggaggaaatg	ataagacaca	gtatatgggt	1380
tctttcggct	atgtaaaaca	gaatggctctg	atggaacaca	atcactacga	ccgtttacaac	1440
ggcagagtga	atctgactac	agagttggct	aaaaaactga	cactgactac	ccgtttgggt	1500
ggagtcgttt	ctaaacggag	cgaaccttct	actccgggtg	gaatggactc	tgccggattt	1560
aaagctttct	caagtaatgc	acttcgtttt	ccgggattat	gggcaactaa	attggaagac	1620
ggatcttacg	gcttaggacc	gaaggtagctc	ggaacacccat	tggcatggct	ggacagcggc	1680
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agtttcngng	nttctatcc	atnnggggnc	tctatc			1836

&lt;210&gt; 3163

&lt;211&gt; 1158

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3163

ttcggagaat	acaggggcta	ttgccggcaa	gtattttatat	ctttgctact	taattttttat	60
ttgagatatt	taaattgta	acttatgaac	aggaaaaact	acttattagc	tttcattctt	120
tgtgtgcaga	cgctgtttgt	ttctgcgcaa	gtctatccgg	tccgcgcaaa	gttgaccgat	180
gaaaagtctt	tttcaatgat	tcttttacc	gatccgtata	gttatacaat	ggtcgatgcc	240
cattacgcac	tttttgagtt	acagacagca	tgggtagcca	atagcattga	atctctgaat	300
ataaaagggtg	tgctttgtac	cggtgatttg	gtggagcaaa	atgaaattcg	cattccggat	360
ggggtgaacg	gcaaccagac	aagtggagg	caatggcggtg	ctgcttcgcg	tgcgtttgag	420
cgactggatg	gaaaattgcc	ttatgtgatt	tgtaccggta	atcatgatta	tggatatcag	480
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gctgcctatg	aattttataac	cgatacctgg	ggcaaaattc	tggttgtttc	tctggaattt	660
gctccacgtg	atgaggcttt	ggcgtgggct	aagaaagtgg	tcgatgctcc	ccgctataaa	720
gaccataaag	tgatattgct	gacacattca	tatctggcat	ggacaggaaa	agtcattgaa	780
agcgagaact	acaaagtgc	tcctgccaat	tatggaaaag	ctatttggga	taagttgggtc	840
tatccggcaa	agaatatttg	tatggtgatt	tgcggtcacg	aatgtgagat	tgccgattat	900
aaggataatg	tcagtttccg	gattgataaa	aatgcttcag	gcaagaatgt	tcctcagatg	960
atgttttaatg	cgcagactgc	cgataagcaa	tggttcggta	acgggtggaga	cggatggttg	1020
aggattatgg	aattcatgcc	tgatggaaaa	acgattaaaa	tcaaaacatt	ctctcctctc	1080
tttgcacttt	ctcctcttac	ttgtgataaa	tcgtggagaa	cagattctta	tgatcagttc	1140
gacattacga	tagagtaa					1158

&lt;210&gt; 3164

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3164

attacaaata	tgaactacga	agatatagac	catttactgc	ctcgatattg	tgaaggactg	60
gctacggaag	aagaatgccg	gcaggtggaa	agctggatgg	aagaatcgga	agataaccga	120
aagatagtg	atcaaatcaa	cactctttat	atagctgtag	atacgggtcaa	cgtaatgcgt	180
aagggtggata	cggaaaaagc	tctgaaaaag	gtcagtagca	gaatgatcgt	caggaaaaca	240
acttgggtggg	agtggatgca	gcgtgtcgct	gctatcttat	ttatcccgtt	gtccgttgct	300
tttctgggtgc	aatatatgca	caatgggaaa	tctgtctgtg	gccagatgat	ggaaataaaa	360
accaatccgg	ggatgacaac	ctcgggtggta	ttgcccgata	gtacggttgt	ctatctcaat	420

tccgagctctt	ctttacgtta	tccttctgtt	tttgaaggcg	atatacgaaa	tgtcgaatta	480
aagggagaag	cttattttgc	ggtagcaaag	gatttgaaaa	agaagtttgt	agtttccgcc	540
ccgcattcat	cgcagataga	agtgtctggg	acacacttca	atgtggaggc	ttatgaagac	600
gagccggatg	tttcgacaac	attggtggaa	gggcaggtct	gctttcattt	tagtgataaa	660
gactatctgg	ccaagaaaag	ggttatgaaa	cccggacaaa	ggttgggtct	cagttcgacc	720
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actgaacagc	ggttgaacg	tattctggag	tattttaaaa	tctcgtccaa	gatacagtg	960
agatatttgg	aaagtcctga	tattcgggat	gaacgaagta	taatagaagt	ttattga	1017

&lt;210&gt; 3165

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3165

agaaaatccc	ggagcatggg	aaaaagcggc	agcagttcga	accggagcgt	taccatctct	60
tcccagaaa	aggatatcta	ccagggaagg	gattttgcgg	acctggaacc	gggagagttc	120
atcggatccg	ccaccctgtc	caatgtcaga	tacttcaagg	tgatgctcgg	ggagtttaaa	180
gaaaaggatg	aaaaaccgct	gcccgaacgc	cgggttctgg	aaccgggaga	aatatccggg	240
aattttgcca	ggatccttga	ggaggtacgc	tcccttttcc	catgtgaata	g	291

&lt;210&gt; 3166

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (142)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3166

gccccggtga	taggcatgct	tatgagcata	tccaccgcc	agttcaccat	gcagaacaaa	60
gtgcctttcg	tatatttctt	ggatgaaatg	acaacgggtc	acattaaaag	tttcgagtcg	120
ctgctttcgg	tcatgcgcga	anacaaggct	gcctttgtac	tgcttacaca	gtccgggttc	180
aagctggaga	atctgtacgg	caagctcgac	cgcttcaccc	tggaagccaa	tttcggaatc	240
cagttcttcg	ggcgtaccaa	ggatgtggaa	gccttgaaat	attatccgca	gatgttcggt	300
aagtag						306

&lt;210&gt; 3167

&lt;211&gt; 651

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3167

gcactctcgg	taccttccag	ccccgtgggt	aagacggcac	agatgaagaa	attcaccgcc	60
gaatgtatgg	atgaatatgc	ccgtaacttc	taccgtgaga	aaataaaatc	aggggatgac	120
ctgggtctgt	acggccgcgt	ggaaacggaa	cgccactata	agaatgatga	tccggaggtt	180
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tcctcccggt	gcgcttcacg	cttcaaccag	tcatatgact	atttccctaa	ttactattcc	420
agggatgaaa	gcctgaggaa	gtactccgag	aactggcagg	ccaaaaacga	actgaagaac	480
gaggcggtat	caaagctcaa	acaggaaggt	ctcaaagggg	agctgaagga	agaaaggcgt	540
ctgtatgcca	acaccttccg	gatttaccgg	tttgtggtaa	acccaagaa	ggcaattatt	600
caggaaactta	aaaggctggg	gacggatctt	ctttccggaa	gggacctgta	g	651



<210> 3168  
 <211> 1320  
 <212> DNA  
 <213> B.fragilis

<400> 3168

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cctacgtgga	tattaagatg	gggaataaacc	attttcttcg	tttttctttt	actgggttatt	120
tccgtttctg	gattttataag	atatccagat	attgtacctg	ctacagttga	aattacaacc	180
ataaatccgc	cagcaaatct	aatttccaaa	gtaaattggaa	aaatagaaat	catattcaca	240
gaagaaggag	aaagtataac	aaaaggacaa	gtccttgcca	tattagagtc	accagcacaa	300
tggaaaagaca	tgaaaatttt	agatcattac	attacagtcc	tagaaaacac	aattggaaaa	360
gatagccttt	cagtaattcc	cgaacccgat	tttttgcgca	atgatcttga	attaggagaa	420
gtacagggac	gctatgctga	tcttaagctc	aattatactg	agctatacaa	ttttctacat	480
tccggactat	ttgaagaaga	agtattgtca	ttacaagaaa	aaaagcaggc	acaaaagcaa	540
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gaacaaagac	acaaaaacag	gcttcagttc	caatcttcac	ttgtagatat	ggaagtcaac	720
atattgaaca	ttaaatcctc	attaaaacaa	ctacgctctg	atctaaaaaa	aatagaatta	780
aagcataaca	ccgacaggca	ggagctaaca	aataaacttc	tacaaagcac	gcacttatta	840
aaagcgcaaa	cggaaacttg	gaaacaaaat	tatttaatta	ctaccctat	agatggtaaa	900
gtaagtttita	ccatatttg	gagtaagaat	caaaacgtca	aatcagggtga	gcttattttt	960
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gagttccgga	tgtagtgagg	tcattctatcc	aaaatatcag	aagttcctaa	tgaactatta	1140
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aaagtgcac	aactgaaagg	agatgctgaa	atcctaacag	acgatttgag	tctattaatg	1260
cgttttttca	atccattacg	ggccattttt	gatcacagat	taagaaaaca	taatcaataa	1320

<210> 3169  
 <211> 1326  
 <212> DNA  
 <213> B.fragilis

<400> 3169

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actattgtag	gacatctggg	atcgcccgcc	tacatcggag	ccattgctgt	aggtggcatg	180
ctgttcaaca	tcatttactg	gatattcggc	tttctacgga	tgggcaccag	cggcatgact	240
tcccaagcat	tccgacaacg	taactctgaa	gaagtaacaa	aactgcttct	acgttcagtc	300
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ctggcaagtc	tttggtttgt	attccttttc	ggaatgaaag	tagaaggagt	agctctcgga	600
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aaacaattgc	ggaaacgagt	ccattggaga	ggcatttggc	aaaaacaagc	catgtatcgg	720
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ttcttcacct	ctgccggagc	cgcccaaggc	gaagtagtac	tggctgtaaa	cactttatta	840
atgcagctgt	ttacctctct	ttcatatatt	atggatggat	ttgcctatgc	aggcgaggca	900
cttgccggtc	gttatatcgg	cgccggtaat	cgtatggagc	ttcacccgtac	cgtccgacag	960
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caatcatttc	tgggattact	gacaaacgaa	tcattccgtta	tccaggaagc	cgacacttac	1080
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cattaa						1326

<210> 3170  
 <211> 348  
 <212> DNA  
 <213> B.fragilis

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 gagttgtact atttcctcga tttgattgat gagtactact ctgaaagcgg aatcctggat 180  
 gttcagcccg atgctgacgg ttatgttgac atcgacttgg agcaggtagt agaattcatc 240  
 gtgaaagaag ccaaaaaaga tgaagtgggt gaatatgacc cggaagatat cttatttgtg 300  
 gtgcaggag aaatggaata cggcaacttt ctgggacagg tggagtaa 348

<210> 3171  
 <211> 1257  
 <212> DNA  
 <213> B.fragilis

<400> 3171  
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 gtaatatctc tgtttgtaat gacaggatgt ggaggaaata acaactgac agatgattgc 180  
 atcacggttg atgttagtgc ggattatcct aaaaaggaaac tgatccttca agattttatg 240  
 gatgtagaat acgttccgtt ggaaactact gacgatttta taactcaagg tattgtgaaa 300  
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 tttgacaggg ctactggtaa agggttacgg aagattaacc gtttgggaca aagtggtgaa 420  
 gaatattcgc atattacgtc tattgttctg gatgaagata ataacgaaat gtttgttgta 480  
 gattatcctg caaggaaaat attggtatat gacttatatg gagagttcaa tagaagtctc 540  
 ccatttccag atacctgcta ttatgagttt ttatcggact atgaccggga tcatctgatt 600  
 gggtataaaa gttatttggc attgatagaa accgacgaat catgccatgt acttatttcc 660  
 aagaaagacg gaagtgttac acgaaaaatt caaatccctt tcaaagaact cgagacaccg 720  
 gttgtgacga aagatgaggg gatagtgact ccagtttttt ttctgataac cccgcatgat 780  
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 tcagaccttg tcgaggcgaa cgaaaaagga gaactgaaag gtaagctaaa agaaattgct 1200  
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<210> 3172  
 <211> 312  
 <212> DNA  
 <213> B.fragilis

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 tgcatttgtt tattcattga catgcaaagt tacatgaaaa acagagaata tgaaaatgat 180  
 gtgaacaatc atgtaattat attggttcgc aacgttctcg atacaggaat taatattatt 240  
 tttgtctgca tattgaaaga tatcttacag acaattaaca aacatcgag cgaggtagca 300  
 ttatcaattt ga 312

<210> 3173  
 <211> 786  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 3173

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aaggagaaaag	ttagcgaact	gaccacagta	gtggcagact	tccagactgc	aggcagagga	180
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tatccaactt	tcttggaagc	acgtaagcaa	ttcctgcttt	cacaaatcgc	ctcttttagca	300
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gtttctacaag	acgagacggg	taagatccgt	cgatatctat	ttaaagaagt	acaatacatt	780
cttttaa						786

&lt;210&gt; 3174

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3174

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aacagtgatc	tacctgcaga	atttggtatc	cgcaatattc	ctactgttct	attttttaag	240
aatggagaat	tggtagacaa	acaagtcggg	gccgtaggta	aacctgcatt	tgtagagaaa	300
gttgagaaat	tattataa					318

&lt;210&gt; 3175

&lt;211&gt; 1332

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3175

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cagttactct	ga					1332

<210> 3176  
 <211> 867  
 <212> DNA  
 <213> B.fragilis

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 aatcacactc cctctccagc taccgatgag gcgacatcct cccccaatga acaggaacaa 180  
 ctttctcccc aacaagaaga agaaatgaaa ttaaaaatcc aagagcttca acaaaaagaa 240  
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 cagcagaacc tggagaatag gaatccaaac gatgaacgct ccatagagcc tgcgacgcat 360  
 cccgatcact cgttcccttc tcaaatcgga gatcaaataa atgcattaaa aaaactattg 420  
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 gagcaaacag ccacccgaac agtgatcact gatccccggg aacaagccgg cactattaaa 780  
 gaatttcatt acggaggctt ccgaaatact accacaaaca aaatatttca accctcaaca 840  
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<210> 3177  
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 <212> DNA  
 <213> B.fragilis

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 ggtgtccggg agtatccatc cgtagataac cctattattt cgggtgtcctg ctcttatccg 180  
 ggtgcaaatt ccgatgtcat cgagaatcag atcaccgaac ccctggaaca gaacatcaat 240  
 ggtattccgg gcatccgctc actctccagt gtcagtcagc agggacaaag ccgtatcacg 300  
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 ctcagtgaat ttgccgacct gactgtaaaa gaacagttgc aaacgatctc tgacgtaagt 540  
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 taa 723

<210> 3178  
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 <212> DNA  
 <213> B.fragilis

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 aagattcacg aagttctcaa gttatctcat aacaacagaa aagagataga gaaagctctg 180  
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 atggcattgg attccgtata taaaacatgt actgaccctc cacgccccaa aatagtaaga 420  
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 ccctatcgta ttggcaacga atcactgagt gcttggaggg aacaggcttg tcaaaaattt 600  
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cataaccgga	caaaaggagt	tgaagaacgc	atttttactt	atatgaataa	cgaacagata	1980
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&lt;210&gt; 3179

&lt;211&gt; 2796

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3179

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&lt;210&gt; 3180

&lt;211&gt; 1326

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3180

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gttggagtaa	gcaacatcat	gtttgtcgtg	atcaaagaaa	ggagtagcga	aataggcatc	1020
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atcataactg	taatctctgg	tatcatcgga	ttgatatacag	gtgcaggtat	tcttgagatt	1140
ataaatgggt	tgctcgaaaag	cgcccgtcac	gcgacaatga	taaagcatgt	agaaatagat	1200
ataaatgtag	ctgttctcgc	tttggttatc	ttgattctgt	ccggtgtcat	tgccggagca	1260
tttccggcaa	tgaaaagcatc	tgttatacaa	ccatttgacg	ccattagaaa	cgaaaatata	1320
ggataa						1326

&lt;210&gt; 3181

&lt;211&gt; 738

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3181

tcagaaatgg	cagaatcgac	tatcatcaca	ggacaattcg	tacgaatcag	tcaggtagcc	60
gccagccttg	gcgaacggat	actggctcgt	attattgact	atltttctgt	gtttatctac	120
attcttgcca	cttcttatat	attggggaaa	ctcaatatatac	atgctttttc	cggaagtacg	180
tttttcctgt	tgttcctggt	catctatctg	cctgtactat	gttactcgtt	actttgcgaa	240

gtttttaacc	aaggacagag	tgccggaaag	aaacttatga	atatccgtgt	ggtaaaagca	300
gacggtacga	caccagcct	gagcgcctat	ctgctaaggt	ggttgcctta	tgggatatagac	360
gtaactatta	ccggaggatt	gggcgtactg	gtcatactat	tgaccaaaaa	cagccaacgt	420
ttgggagatc	tggctgccgg	tacaatggta	attaaagaaa	agaactatcg	caaataacag	480
gtaagtcttg	acgagttcga	ttatctgact	aaaggatata	atcccagttt	tccatcagct	540
gccgacctgt	ctttggaaca	aataaacgta	atcagtaaag	cattagaatt	acatcataag	600
gatcggacaa	gacatatcgc	acaattggca	cccaaagttc	gtgccctgct	atctgtagat	660
caaacaaata	taaacgatga	aaaatttctt	cagaccgttg	taagagacta	ccaatactat	720
gcattagaag	aaatttag					738

&lt;210&gt; 3182

&lt;211&gt; 1809

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3182

aacaaaccgg	caatgaaaaa	taaagtctta	aaaataacgg	ctgcgctatt	attcctattg	60
ccacatgcag	gcctggataa	taacagattt	ccggtaaatgc	tctttttgtt	ctatatatgc	120
tcttttgtct	ttttcgcaac	gacatggagc	ggaatgaaag	aagattggag	cagaaacagc	180
cgcacttggt	ttattgtctc	cggcattgtc	ctgagccttt	ttttacggta	tgtctcagga	240
aatatataatg	gaacctatcg	tttatatacg	atggcggtag	tatggatatt	gttcttctct	300
ttttatgccg	cacagtcctc	gcccgggaaa	aacagacgct	tccttgcctg	ggtagtcata	360
gcgactgtcg	cagtggaaac	cgttttggga	atcgcccagt	ccatcggtct	actggagaat	420
agcgaccac	agttcatcat	aggcgggtct	atgaccaacc	cgggagccta	tgccggttat	480
cttgggggtga	ccaccccggt	gattctttca	ctattagtag	cttataaaaa	aaacaaacgg	540
ttcgagaata	tttgctacat	cttgggcggg	ctttttatct	tagtatgcta	tctgttaata	600
ctcagtcgct	cacgcggagc	atggatcgca	tgtggcgcag	gctgtctttg	tgtactttgc	660
tatcggtatg	cccgatttct	acgcggtagc	aactattgga	gtaaaaaagc	gattcggact	720
ccgacaatca	ttctgtcagc	cgttttaatc	atcgcaagcg	gattctttgt	attcaaaatg	780
aaagaagatt	ccgctttggg	ccgtatatattg	gtatggaaag	taaccctatc	cactcctcat	840
ccccatgcga	gcttggttatg	gggaaaacgga	atcggttatt	ttgaatctca	atatggaaag	900
tggcaagccg	actacttccg	ggaaaaagaa	ggtaccgaga	aagaacgtca	catcgcagga	960
tatgtaacca	ccgcatacaa	cgaattcctt	gaacttggcc	ttgagcaagg	gattatcgtg	1020
acagcatgca	tgcgggccct	tttgggttatg	gcaacgggca	ccggttggaa	aaacctatca	1080
accattgaac	tccggagccaa	agcatccatc	gtttccataa	ccatattgat	gttctgttcc	1140
tatcctctga	aggtactccc	caccactctt	tatctgatgt	tctgcctgtc	ggtggctctt	1200
tatggaaaaa	agcggttgct	ttccaccgga	catcgcatga	taagcaacgg	tgtaaagatcc	1260
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tcagcctatt	ttttatcggc	tgaatatcaa	aaagcgattg	aagagctgtc	agtttccctgc	1500
acccaatgtt	ccaaccctag	cagtttcatc	ctcttaggaa	acgcataccg	ggaaaacgga	1560
gatacggcta	aagccatcga	tgcataatac	acagctgtct	atatacagcc	atccaagtta	1620
taccccaagt	atttggtggc	taagctatac	gaagctgcag	gcgattacgg	gagtgctgga	1680
gaatgggctt	ctaaaatatt	agctaccgac	gagaaagtac	caactacagc	ggcaaaagag	1740
ataaaaagaag	agatgaggtt	actgttgaaa	caagtagtaa	taaaaacaaa	aaaagatgat	1800
tataaataa						1809

&lt;210&gt; 3183

&lt;211&gt; 711

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3183

agtatggagg	caaaagttaa	aattcttttt	attgatgatg	atattacgtt	tggacgtatt	60
tgtaccatca	tcttacagga	aaaaggctac	gaagtttttt	atcaaaccac	tttaaacgga	120
gccaaagctt	gtatagcgga	agctcatccg	gatacatttg	tacttgatgt	ggagatcgga	180
aatcagaatg	gcattgaagt	cgctccagaa	ataacagtga	tagcaccgaa	tgttctgtgt	240
ctgtttatct	cttctcatat	ggagagccat	tgggttgtag	aggctttgga	agcgggtgag	300

gtggccttata	ttaaaaagcc	ctttcatgct	gaagaattaa	ttgcgtatgt	tgaaagggttt	360
gctgtacagc	gtccatccca	actccggata	ggttccttgt	cgcttgacac	cgaaaccagg	420
atcttatttg	ctgatgactc	gacagttatt	aagcatttga	gtgaatccga	atataagtta	480
gtaaggcttt	tacttattca	taaaaaccac	atagtgggca	gaggggcaat	agaaatggag	540
ctatggggaa	atactgaagg	aaatgaacag	agtactaata	atttaaatatt	caagatacga	600
aaataccttg	ttgccgatcc	cgacatcgca	cttgaaacga	taccgaggag	cggatatagg	660
ctttctgtga	aattagaaaa	acagaaaaga	agagtgagtg	actgttttta	a	711

&lt;210&gt; 3184

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3184

aattgggttt	atctgcaaac	aaaactcaaa	aaatacatga	aaaaaatcta	tcttttttta	60
tcgttcctaa	ttgtcatact	tgcataatccc	ttaattagtc	ttttaacggg	attaattatt	120
ggaaacttag	tgcaaaatac	aactccatgg	atacgcccca	tgacgctatt	cagtctcgct	180
acattttatct	taatatccag	aaaaaatatt	cgatgtcatt	cgtctttcaa	taggagtcct	240
tctttgaaaa	caattctttc	tgtttgcatt	ttaactatat	ccatgtgtat	agctataggg	300
atgattaccc	caattcctca	aaacatatca	ttggcgaaac	aagaactact	caattttccg	360
agattcatat	atagtctatt	cttaatccct	attttagaag	aattatgctt	tagaatcatt	420
attatcaata	aattcaaagg	taaaatgaat	caatggatta	taatcacggg	aacagcacta	480
ctcttttgga	taatacatat	gagtagtata	tatacaatga	tttcaatggc	atgctttggg	540
tttatattag	cctatttgta	cgttaaatac	gaaaatgggt	tccttcttat	actgggttc	600
tctttgtaca	gtattagcgt	ctactgttca	tacagtgttt	tttgggtccat	tacatcaaga	660
gttttaaaatt	atgtatatag	tcctatatat	tacattatag	ttgctatttc	aatcatgtat	720
attattttatt	tttttcttaa	aaagaaatac	gttttaa			756

&lt;210&gt; 3185

&lt;211&gt; 1098

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3185

aaacgaaaat	ataggataat	gaagacattt	aagattatat	taattttgcat	cttttccgcc	60
acactggcat	ttgttgcttt	togttcttcg	ctaagaggta	caaaggcaat	ttacgaaact	120
acacaaccac	aatatcgcca	gatcaaagag	gaaataaaca	tatccggcaa	tgtttttccg	180
atgaaggaga	tcgaaataaa	atcgagata	tcgggagtc	tggaacaagt	taatgtttcg	240
ataggagata	aagtgcgcat	aggagatcct	gtcgctcca	tcattgctgg	cccaaacgca	300
tcggatatgg	aacgactgga	atataacttg	aacactgccc	aaattgagta	taaagcccga	360
ctggaagatt	ataaacgaga	acacaaattg	tactcaaaaa	accttggtgg	acaggcagag	420
atggactctt	acacacaggc	atacgaatta	tctaaggaga	agctcgcttc	tgcccaaat	480
caattgaaca	tcttgaaaga	agggcgatc	tctcctgaaa	cggcatctaa	catcgtaagg	540
tcgagtatta	gcggcggtat	tattgatacc	cctctggaaa	cgggggcttc	tgtaatagaa	600
cgcaataatt	ttaatccggg	aacaacgatt	gccgttgtgg	cggaaatgtc	tcgggttctg	660
tttaaagccc	ttgtccctga	aaaatatctg	aaagatatcg	ctttacaaga	cacgatctca	720
ctcttattca	atgcctatga	taattttacga	acccgggcag	tagtaacaaa	aatttcatcc	780
aaaggaaatg	cagagaacgg	aattatgaaa	tatatgcttg	aggcagaatt	tcccgctctg	840
gaaaatatgc	ctgttataag	atcgggatat	tctgcaacgg	ccaatatggg	gataaaacag	900
aaaaagcaca	ctttatccat	tgatgaaaaa	tatgtcttat	acgagaatga	ctctacatac	960
ctctatctgc	tggtactgt	gacacaacag	aaaacaaaac	aatcatcaa	catcggtatt	1020
tcagatggaa	attatgtgga	agtgataaag	gggatttcat	taaaggataa	aatagtaact	1080
aactcaaccg	ataaataa					1098

&lt;210&gt; 3186

&lt;211&gt; 1062

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



&lt;400&gt; 3186

tggccggtatt	tatcgaaggt	tttatcacgc	gtcataccga	attacccgat	gttttgcggt	60
tgggcatcat	tctattgtca	ctgtcattta	ttatctatta	ctatatattat	ttaccaaaca	120
gaaaaactca	tggaatcaca	aaaacctaaa	attgctttat	atgtgaagcg	tccttttggt	180
gataaactga	atgcgaccat	ggactttata	aaagagaact	ggaaaccgat	gttgaagttc	240
tgtacctatt	tgattctgcc	gttatgtctg	attcaagcca	tcagcatgaa	tggaattatg	300
ggaggagcaa	tgggaattgc	agctgccaaa	gaggccggga	ccaattcttt	agcggccatc	360
ggaatgcaat	tctgggtaaa	ttacggactg	atgtttctct	gctatctggt	aggttctata	420
ttgctgactt	ctattattta	cggactgatg	caggttttata	atcagcgcga	agaacggttg	480
gccggtgtga	cgtttgccga	cttgaaacct	tttctgttca	agaatataag	acggctgctg	540
gttatgggtac	tgttctgtat	aggccttact	atagtgggtg	gcattgttat	ggggattctg	600
gttgtagctt	ctccgttcac	gcttttgctt	actattccgt	tgctgatagc	ctgtgcagtg	660
ccgttagcct	tgtttactcc	gattttacttg	ttcgaggaga	tcggcatcct	tcagactttc	720
tggaaaactt	tccgtctggg	atttgccaca	tggggcggtg	tctttttagt	atctctggtc	780
atgggtttga	tatccagtgt	attgcaggga	gttactacga	ctccgtggta	tattgccact	840
atcgtaaaat	acttctttat	gctgagcgat	acacagaatg	aactgaccat	ctctgccgga	900
tatagtttca	tgggtctacct	gttggctatc	gtccagactt	ttgggtgccta	tctttctatg	960
atattttctt	tgattggtat	ggtatatcaa	tacggtcagt	ccagtgaagg	ggtagatagc	1020
atttcggtag	aaagcgagat	agataaattt	gagcaattat	ga		1062

&lt;210&gt; 3187

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3187

cccatgtttc	acatttttagg	atttttattc	attattgtca	tagccgttat	aatcattgga	60
ttggcccttg	taggcagcgt	attaagagcc	gttttcggac	ttggaaaacg	ctcgccctcg	120
tcagggttcag	atcgtaacgg	acccaataat	aattcaggaa	gcagaagata	ttaccaccaa	180
actcaggcta	atgataaaga	agaaatcatc	actgggacag	gagccaagca	caaaaaactg	240
tttgatgata	acgaaggaga	atacgtagac	tacgaagaaa	taaaagaata	g	291

&lt;210&gt; 3188

&lt;211&gt; 729

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3188

accaacaatc	agaatcgtat	ggcaaaatac	aaaagagtcc	tgttgaagct	cagcgggtgag	60
agcctgatgg	gagaaaagca	atacggcatc	gatgaaaagc	gattggccga	atatgccgca	120
caaatcaaag	agattcatga	acaaggcgta	caaatcggca	tcgttatcgg	tggtggtaac	180
atcttccgtg	gactgagtgg	agccaataaa	ggtttcgatc	gggtaaaagg	tgaccaaattg	240
ggtatgctgg	ccacagtaat	taacagcctt	gccttaagtt	cggcattagt	tgccggccggt	300
gtgaaagcac	gtgtacttac	agccgtacgc	atggaacctc	tcggtgaatt	ctacagtaaa	360
tggaaagcta	ttgaatgcat	ggaaaatggc	gaaatcgtea	tcattgtcggc	aggaaccggg	420
aatccgtttc	ttactaccga	caccggctca	tcgcttcgcg	gtatcgagat	agaagcagac	480
gtcatgttga	aaggtaactcg	cgtagacggg	atctatactg	ccgacccgga	gaaagatcct	540
acggcaacca	agttccacga	catcacttac	gatgaagtgc	tgaaacgagg	actgaaagtg	600
atggacttga	cagctacttg	tatgtgtaag	gagaataatc	tgccgatcgt	agtattcgat	660
atggatacag	taggcaacct	gaaaaaagtg	attaccggag	aagaaatcgg	tacattggta	720
cacaattaa						729

&lt;210&gt; 3189

&lt;211&gt; 1410

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3189

accgccggtc	agccaaagggt	cgttctcctt	attcttgccg	tcgccggaaa	tggactgggt	60
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agccaccata	ttcgtccaac	tgccctgacc	ggaaaagttt	ccgtccggat	gatataccgg	120
catcatcggg	cgaaggtcgg	caccgtagaa	tgcactgttg	atctgtgctg	tctcgtcact	180
gttgttactt	ccgtaaggag	catcccggta	agtgttggtg	tagacggtct	tcaaccgcac	240
ctgcaaccaa	ttggtgacgt	ccgaagtcag	gttcagggtg	acattgaaac	ggcgggtactt	300
atcgtcgtaa	tgtttcagtg	ttcccccttg	gtcaggaaaa	cctatcgaac	cgtaataggg	360
ggtcttgccc	gaacctccgt	tgagagacag	ggtgtactgc	tgcacagggg	tgttgtcttt	420
gatggtttca	tctatccagt	cgggtgttgc	gcaatacaga	tacttgttgg	gattggacgg	480
atcgatgaat	accggcagat	tgtgtttcgg	gtcgggtataa	taggcataga	tatgatccat	540
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ggcaaatgtc	cacgaatcca	tatactccgg	tttgctgtga	ggcgaattga	tagaccagtt	660
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caaagggtccg	gaagagttta	tagatgtagt	accacgaacg	ttgaaccctg	atcctttgcc	900
cggcgccaccg	ttgtcggcgg	aaatgttcag	gttaccgatc	ggaggctgca	gtccctggct	960
aagattgggtg	atcggggcgac	tctccaatgt	ctctgccgaa	acactggcta	cggctccggt	1020
gaggttggct	ttcttttctg	taccataaacc	caccaccacg	acttcgtcca	aggttttgct	1080
gtcctctttc	aggggtgatct	gcagacgggt	ctttgcggaa	acggtcacga	cttgtgtttc	1140
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aagcggagaa	cccgtaacgt	caagaacaca	accggttatt	ttctgtttct	gctgttctac	1320
ctgcaccact	ccggcagggtg	ctgcattgta	gctgtgagaa	gcaaggcaag	gttgaagtcc	1380
catacccga	agaaggacaa	acatccctga				1410

&lt;210&gt; 3190

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3190

atgacgttgc	aagctgatac	attggtctgc	gataccgcaa	gggttgcttt	ttggcaatcc	60
aatccggatt	atgactataa	ccgtgaactg	atgactcctg	agattgatat	ctacgggtgg	120
ctcagtatgc	agctctccaa	gttacttcgt	gccattttcg	gaagtcggtt	tgctgaggag	180
tattccggca	ttatcctgat	tattattgct	attctcatcc	tgttgctgat	cctctggttt	240
ctttataaaa	agcgtcccga	gctttttatg	cgttcacgca	gaggtcctgt	aaactatagt	300
gtccacgaag	ataccattta	cggagtcgat	tttgatgcag	agatcaggcg	tgccatagac	360
cgcaaggatt	accggggaggc	catccgtctg	ctttatttgc	agacccttaa	actgttgagc	420
gatgacggcc	ggatagattg	gcaactttat	aagactccta	cagaatatat	ttatgaggta	480
aagcaggaga	tacttcgtac	tcttttcagg	aatctgacct	atgggttctt	acgggtacgt	540
tatggtaatt	ttcccgcttc	cgagtctctt	tttgaagagc	tggcagctct	gcaaactcaa	600
atcaggaagg	gaggggatgt	atga				624

&lt;210&gt; 3191

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3191

cttcttttcc	tgaaagaagt	taatgttttg	atgataaaac	cggaatatatt	atccgagaag	60
ataagaaaaat	tcgcatacaa	ataccctatt	tatgtatttc	actcctctat	taggacgatt	120
tcgaaaaaag	accgcgttat	taaaagagag	ataaaaaat	ctttttcatg	caaaaacgca	180
aataaacaaa	tctatttgca	caactatttc	tctctgcgta	ctcgtgataa	gatttatcca	240
tataacaaaa	agacatag					258

&lt;210&gt; 3192

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3192

ttgtacacta	agcataatac	aatgaaaaag	aaaattatac	ggtatcta	tgtatcgcat	60
ctaacattta	tcctttctat	aggcggtatg	gcagtagctt	tctactacta	ccatactgcc	120
caaattggcac	aaattaagaa	tgogaacatt	cttctcatct	caaaagatga	aatgaaatta	180
cgcttaatag	actataaggg	ccaagaatta	ttcactgccg	acatagcttg	tgggaagaat	240
tatggcaaca	aggaaaaaca	aggagattta	aaaactcctg	aaggaaacttt	taaaataatc	300
gatatccaag	atgcttctaa	atggaaacac	gattttggag	atgggaaagg	tgaaatagag	360
ggtgcatacg	gtaatcattt	catccggtta	gaaacaccgc	gacataaagg	gaattgggat	420
tcattggcacc	cacgacccat	tattctattgg	gacccggagc	gacccgagga	tgcattcgaa	480
tcaaaaattc	agaattag					498

&lt;210&gt; 3193

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3193

atacttaata	agatggtaga	cgtaaaaacg	attatcgaag	aatcacaaga	gaagatggat	60
atggcagtg	tgtatctgga	agaagcactg	gcacacatcc	gcgccgaaa	agcaagcaca	120
cgcttgctgg	atggatccg	tgtagactct	tacggaagca	tggtagccat	cagcaacgta	180
gctgccgtaa	ccactcccga	tgacgcagc	atcacgatta	aaccttggga	taaaagcatg	240
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ggtgaaatta	tccgcatcgg	tattccacct	cttaccgagg	aacgccgtaa	gcaactcgcc	360
aaacaatgta	aagctgaggg	tgaaacagcc	aaagtcagta	tccgtaacgc	acggcgcgac	420
ggcatcgatg	cactgaagaa	agctgtaaaa	gacggtttgg	ctgaagatga	acaaaagaac	480
gcagaagcta	aactgcagaa	ggttcattgac	aaatacattg	ccaaaattga	agaaatgctg	540
gctgaaaagg	acaaagaaat	tatgaccgta	taa			573

&lt;210&gt; 3194

&lt;211&gt; 1302

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3194

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&lt;210&gt; 3195

&lt;211&gt; 1086

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3195

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&lt;210&gt; 3196

&lt;211&gt; 204

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3196

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aagttatttt	tttgtaaaat	ataa				204

&lt;210&gt; 3197

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3197

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&lt;210&gt; 3198

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3198

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 <212> DNA  
 <213> B.fragilis

<400> 3199

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 <212> DNA  
 <213> B.fragilis

<400> 3200

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<400> 3201

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&lt;210&gt; 3202

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3202

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ttaa						663

&lt;210&gt; 3203

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3203

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&lt;210&gt; 3204

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3204

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&lt;210&gt; 3205

&lt;211&gt; 2223

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3205

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ttaa						2223

&lt;210&gt; 3206

&lt;211&gt; 1338

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3206

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&lt;210&gt; 3207

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3207

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&lt;210&gt; 3208

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3208

agttttatga	atatagaatc	agcaagagaa	tactgcctcc	ggaaaaaagc	agtcacagaa	60
tgcttcccat	tgcacgaata	ttcactcgtc	atgaaagtaa	tggataaaat	gttcgccctg	120
atcgatctgg	aagggggcaa	tacgatttca	ttgaaatgtg	atccggacta	tgccatcgaa	180
ttacgtgagc	actattcggc	catcgaagga	gcttatcatt	ttcacaagaa	gtattggaat	240
caagtctact	ttgaccggga	tgccgatgac	aagctgatca	agcaactgat	agatcattct	300
tacgacgaag	taatgaagaa	atttaccaaa	aaattacgta	ccgaatatga	tgccctacc	360
tga						363

&lt;210&gt; 3209

&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3209

ataaaaaatga	agaagatgaa	aaccttgact	ttattttcttt	ccttgccttt	ttctttcccg	60
tttgtgcttt	cggctcagat	gggtgggagag	acttttgaga	aggtctctgc	tgcccttgat	120
aacagacagt	gggaccaagc	tggtactttg	ttccgcccaag	cggtaaatac	caatgtagag	180
aaagccgaaa	tgttctattg	gacagggtgtg	gataagagtc	tggaaagtac	atccaggatg	240
ggcggggaac	tggctgctta	ttacaaaaaa	tcacgcagct	atgacaaaagc	gtatcttttt	300
tataaagagt	tgtttcaaaa	atctccgaat	gatgttaatt	gtcttgctgc	atgtgctgag	360
atggaagtat	gccgtgggag	ggagtctgaa	gcttttgaga	cttaccggaa	agtactgtca	420
ttggatgcgg	ataatctggc	agccaatatt	tttatcggtg	attatcttta	tttgaaggcg	480
gagagagaga	aaaaacagtt	agaagccgat	tataaaaaaga	ttagtgtctc	caactcgatg	540
cagtatgcac	gctatcgtga	tggtcttagc	cgtgtgatga	gtaccggata	cggaaaggca	600
agggaatatc	ttcaaaaagg	gatcagtcaa	ttcccttcta	ctgaagctca	aaagacatta	660
gaaagaataa	agcttataga	aaaagagggtg	aacagataa			699

&lt;210&gt; 3210

&lt;211&gt; 2070



&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt;

(135), (1301), (1345), (2035), (2048), (2049), (2050), (2051), (2052), (2054), (2058), (2059)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3210

tatcgaagga	aatccaccag	aactttccat	ccgtacttgg	gattaatgca	cactgcagaa	60
gagttcaaca	acctgatcgt	caaagaagag	aaacgaccgc	atcatccgtt	ttcagtgata	120
tcggacgagc	cgaantgggg	ccctgccgac	atcaaaagct	acatgaagat	gaatgggtgta	180
cccatggtgg	gaatcgttgt	aatcccccag	cggggtgcca	accatataaa	gatagccgat	240
gcggtatatg	aacgcgatgga	gaagatgcag	aaggacctcc	cggaagacgt	gaagtattct	300
tacggattcg	ataacaccaa	attcatccgt	gcctctatca	gcgaagtga	agaaaccggt	360
tacgtagctt	tcatcctggg	tatcattatt	atcttccttt	ttctgcgcga	ctggcggtgtt	420
acgctggttc	cctgcatcgt	gattccggta	tcgttgatcg	gtgctttctt	cgttatgtat	480
ctggcggact	tctccatcaa	cgtgctctcc	atgctggctg	ttgtgctggc	agtgggtctg	540
gtggtggacg	acgctatcgt	aatgacggaa	aacatctatg	tccgcattga	gaaaggtatg	600
cctccgaaaag	aggccggcat	cgaaggggct	aaagagattt	tcttcgctgt	catctctacc	660
accattacgc	tgggtgccgt	attcttcccc	atcgtcttta	tggaggggat	gacaggacga	720
ctgttccgtg	aatttagtat	tgttatttcc	ggttcggtta	tcatctcttc	ttttgctggct	780
ctgaccttta	ctccgatgct	agccaccaag	ttactggtaa	aacgggagaa	acagaactgg	840
ttctatctga	aaacagaacc	tttcttcgaa	ggaatgagcc	gcctctacag	togttcactg	900
gctgttttcc	tccataaacg	ttggattgcc	ctgccctttg	tagcaattac	cattggcatc	960
attgccttct	tgtggaatta	catcccgcca	gaaatggctc	cgttggaaga	ccgttcacaa	1020
atcagtatca	ataccctggg	agccgaaggt	gtgacctatg	aatacatccg	ggactatacg	1080
gaagacatca	atgacctcgt	agactcgatt	gtaccggatg	ccgaatcggg	aaccgcccggt	1140
gtatcgagtg	gtagcggtaa	tgtgcgcata	acgctgaaag	acatgaaaga	ccgtgactac	1200
accagatggg	atgtggctga	aaaactgtcg	gcagcagtac	agacaaagac	gatggcgctg	1260
tcattcgtcc	agcagtcata	ttcttttggc	ggacggcggt	ncggtatgcc	cgtccaatac	1320
gtattgcagg	ccactaatat	cgaanagcta	caggaagtac	tgcccaagtt	catggcgaag	1380
gtttacgaga	acccggtatt	ccagatggca	gacgtagacc	tgaagttcag	caagccggag	1440
gcacgtatca	atatcaatcg	cgacaaagcc	agcatcatgg	gggtaagtac	acgtaacatc	1500
gcacagaccc	tgcaatacgg	tctgagcgca	cagcgaatgg	gctacttcta	tatgaacggc	1560
aagcaatatg	agatcttagg	agaaatcaac	cgccagcaac	gtaacacacc	tgccaatctg	1620
aaatccatct	acattcgtag	tgacaaaggc	gatatgggtc	aattggacaa	cctgattgaa	1680
ctgaccgggtg	gcatcgcgcc	tccgaaactg	tatcgttaca	atcgtttctg	ttcgccact	1740
gtttccgccc	gactggccga	aggaaaaacc	atcggacaag	gattggacga	aatggacaag	1800
atagccaaag	agacgctgga	cgacacgttc	cgcacagcat	tgaccggtga	ttcgaaagaa	1860
tatcgcgaga	gttcttcaag	tctgatgttt	gcttttattc	tggccattgt	actgatttac	1920
ctgatcctgg	cagcacagtt	cgagagtttc	aaagaccgcg	tgatcattat	gctgaccgtc	1980
ccctgggcta	ttgcaggcgc	attgggtcttc	accacggggc	tggaagggtc	cgaacnggtgc	2040
tcatgtgnnn	nntnccann	gcgctctata				2070

&lt;210&gt; 3211

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3211

gctatgagga	agaatttttc	aactatacta	attgtcgggtg	cagccctttt	agtggcttcg	60
tgtgtacaac	aaaaagggtc	tttcagccct	gtagactatg	tgaatcctct	gatggggacg	120
gagtctactt	atgctttttc	acatgggaat	acttatcctg	cggtggcggt	tccctgggga	180
atgaatttct	ggagtccgca	gaccggagag	aacggtagtg	gctggatgta	cacgtatacc	240
gacagcctga	tacgggggtt	ccgccagacc	catcagccca	gtccgtggat	taacgattac	300
ggtactttct	ctgttatgcc	gctgtccggt	gtgctgaaga	tggatcataa	agaacgggga	360

gtacctttct	cacataccca	agaggaggcg	gtccctaca	gttacagcgt	tacgtttgcc	420
gacggactcc	ggacagaact	ttccgctact	tcacgoggag	cggtattcga	agtcaccttt	480
ccgcaggact	ctgcccagta	tatcgttgtg	gatgcctaca	acggtggaag	tgcgttgacg	540
atagaccggg	agaatcggtg	g				561

&lt;210&gt; 3212

&lt;211&gt; 1578

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3212

aaaaatactg	atagcatgaa	cgtaaataaa	cccacaacag	aaaagaaact	catcgattta	60
aataatgata	ttattcataa	cttcgatgta	agtatcgtta	tgtctttcta	taaaagatat	120
acagagttca	aaaaagtatt	accacataat	gcaccctatt	tacaacgaaa	cggtattgag	180
gtaatcattg	tcctagatga	ccccgatgaa	aagtcagaac	ttctaattgct	gcttcaaaat	240
tatccattca	taaattggaa	gctaattatt	aatgaacgaa	aacatgctcc	tcgcaaccat	300
gcttccgtac	taaatgtagg	actcaagcat	gctacaaaa	agtatatcct	acaaatagat	360
cctgaagtag	aattcctcac	tgatattata	tggcaaatga	gagatgccat	agagaaatat	420
cccatgcact	atatcctcgc	aatgatggca	tatgtaccct	atgagcagga	acttacagaa	480
aataatataa	aagagttgga	ttttatcccg	tggggcaatt	tgatggtaga	acgtaaccat	540
ctatacaaat	tacatgggta	tgatgaaaca	ttcatcacat	ggggtggaga	agataataat	600
atgcggtcac	ggttggatat	gtctggtatc	aaaaaattca	tcctcccaga	ggcaaagact	660
attcatcggg	aaaaaaatta	tgatcccaac	gaacgctcta	aacgtatcaa	taaacatagc	720
atttcagatt	ggagaaaaat	gaattatcct	tcggaagcaa	ttgctaacaa	agatatttgg	780
ggaagtgaat	ttaacaaagt	catttacgac	tggcaagaca	atcaatatgc	aaaagacttg	840
tgctatacat	atctacagca	atttatcggt	ttcgaaatca	gacacccgcg	cgcatttcgg	900
aaaaggcaca	aaaagatagt	cctctgccaa	gcgtacaacg	aagaaaaact	gatagaaggt	960
tttctaacaa	atatggcaag	ctattttgac	ggtatcattt	tgctggatga	tgaaagtacg	1020
gatcgaactt	gggatttagc	aatccatgac	aaaattttat	taaaagtga	aaagaaaaga	1080
agtgggttca	acgatttaga	gaatagaaat	atattactcg	atttaagtgc	cttcttccaa	1140
tcggaatggg	tttggtttat	ggatattgac	gaaagatttg	atgagagatt	taccaatttt	1200
tcagaatttg	agaataataa	agagatacat	gtggtaagtt	ttaggggtgt	gtatttatgg	1260
aacgatgaac	aaagttataa	aggtgatatt	ccgaattcta	acaaagggtat	cctcacagtt	1320
taccgaatgt	tcagacctat	agggcatact	cacataaaca	cccataagaa	attacacttc	1380
atagcgactc	cgtatttcac	gaacacatgg	caaagcaata	tattatttaa	agactatgga	1440
tccatgaaag	aaaatgatcg	aattagaaaa	tatgaaaggt	atatacaaga	agaccaacaa	1500
aaggacatgt	cgtcagggtg	tgattactta	ttgaatagcg	aaaatctata	tcaactggat	1560
aaaattgaag	aatattaa					1578

&lt;210&gt; 3213

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3213

gagaattatg	atatatttgc	aaccaaaact	aaaaaatggt	taaccggaaa	tgacagaatc	60
gactatgatt	gtcacacttt	agaagaaatc	ggattaactc	tgcttaaaaa	cagtcactca	120
ctcttctttt	ctgtttttct	aatttcacag	aaagcctata	tcgctcctc	ggtatcgttt	180
caagtgcgat	gtcgggatcg	gcaacaaggt	attttcgtat	cttga		225

&lt;210&gt; 3214

&lt;211&gt; 468

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3214

gataggaaag	agccttttca	gaaagaaaca	ataaaccaac	atacaagtat	ggaaatcaag	60
attcaatcac	tggaacaaat	tcacgaagct	gcccgcgagt	tcattctcagc	catgggcat	120
aacacgggtc	ttgcactcta	cggaaagatg	ggagcaggta	aaacgacttt	tgtcaaggca	180

ctttgcgagg	agctcggagt	atcggatgtc	atcacttcac	cgacttttgc	cattgtaaac	240
gaataccgtt	cggacgagaa	cggagaactg	atctatcatt	ttgacttcta	ccggatcaag	300
aagttgagcg	aagtatacga	tatgggatac	gaagactact	tctatagcgg	tgcactttgt	360
ttcatcgaat	ggccggagct	ggtagaagaa	ttattgccgg	gagacgccgt	gaaagtaacc	420
attgaggaac	tggaggacgg	aacaagaaaa	atagtgatca	acgactaa		468

&lt;210&gt; 3215

&lt;211&gt; 1596

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3215

ataactatgg	acaataccag	aagtgtatat	ggtatcgatt	tgggtaccac	ctacagttgc	60
attgcacaag	tagataaatt	cgaccaagcc	attgtttctcc	gcaatttcga	aggagatgcc	120
actactccat	ccgctgtata	ttttgaggat	atggaccatg	ttgtcgtggg	aaaagaagcc	180
aaaggatgt	tggccactga	acctaccaa	acggcagtat	tcataaaacg	ccatataggt	240
gtagatgaca	gtttcgataa	aaatacaaac	gaatttcctt	atcattacga	cccaacagaa	300
atttcggctt	tcattcttaa	aaagctgggt	aaagatgcc	acgatttggg	agataatccg	360
gaaccgatca	aagatgtcgt	tatcacttgt	ccggcctatt	ttggaaccaa	agagcgtatg	420
caaaccaagc	aggccggaga	aatagccggc	ttaaatgtac	tttctatcat	caatgagcct	480
acggctgccg	cgatctctta	cggtgtaaag	actgatcaga	aaaaaacggt	tttagtatac	540
gacctcggag	gcggaacatt	tgacgttacc	ctgattaacg	tgaacggtgg	tgccattaaa	600
gtaatagcca	caggtggaga	ccatcattta	ggaggagtag	actgggatac	cgcattagct	660
gaatatatgc	tggcagcttt	taacgaacaa	aataacactt	cttattcgtt	cgaagaccga	720
ttagacctaa	aatatgagtt	gttattactt	gcagaagaca	agaaaaaagt	attgacagcc	780
aagcagacag	cgaaagcaac	ttaccaatat	gaaggcaatt	ccgcacgtat	agagattagc	840
cgtgagttat	tcaattcact	gacagaaagg	aaactggacg	aaacgattga	tgccaccaag	900
aaggttattg	ctattgccaa	agaaaaaggt	tacaataata	ttgatgaaat	actgttgggtg	960
ggaggcgagta	gccgcattgcc	acaaataaag	gaacgggtag	ataaagaatt	caatttgtgat	1020
gccaaactaa	ccgacccgga	tgaatgtgta	gccaaaggag	cggcaattta	tgctatgaat	1080
gccgcctatt	cacaagcagt	tcgcgactat	gaagaaggag	aaagtgatga	taaaccggct	1140
cctctccgtg	gagatcgcac	cacagtgggt	aatgtcacca	gtaaaacata	tggtaccgac	1200
gtaatcattg	aaggacaaaag	catgggtgcaa	aacctcattt	ttgcaaatag	ttcgttacct	1260
acaaaacgaa	ttgaaacctt	tactacttct	attcctaacc	aacgaggtgt	atctgtgaaa	1320
gtattttgaaa	gtgattttcac	aaatatggaa	acagaaagta	tcgtggaaga	aagattctgc	1380
acactaattg	acgaccatac	gcttaaactg	agcaaagact	ggcctcaagg	taccagatt	1440
tcagttacat	atcagattga	ccaggaaggt	atcttgacag	gattagctta	tgtagaaaat	1500
gataaacttg	aattcgatct	caaaatcacc	ggtgtaaaat	gtgaagaaga	actcagaaaa	1560
tcaaaagcaa	tcacgcacaa	agcatcagta	gagtaa			1596

&lt;210&gt; 3216

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3216

aaacacccgg	acataaaggg	aattgggatt	catggcaccc	acgacccatt	atctattggg	60
acccggagcg	acccgaggat	gcattcgaat	caaaaattca	gaattagagc	aattagtatc	120
tttaaatccga	gtgccaacaa	ctgttatcat	cacgcctct	gtaaaagaca	taaaaaccca	180
gtaaataaca	aaccgatgaa	aacattcaaa	cgattcctgt	tcatttgtat	cggactattc	240
attatagtcc	tctctaccga	agctttggaa	aagtagaag	tgaccgcaa	tacttttcta	300
aacatacgta	gtcatggaa	cacaaatgct	cctgtcatcg	gaacaataaa	tcattggagga	360
atcgtaaatg	tagaatcaat	agatggagaa	tgggcaaagg	tatccttcaa	tggcggatat	420
ggatacgtaa	gtacgacct	catacgacct	gttactccaa	cacctcccgc	aaaagctcca	480
acaaatacac	tcagcgactg	gtttcgacaa	acaaattatg	attgccgcc	tttagtttat	540
atcatattag	gactttctat	tgtgctattc	atccttagaa	tgcgtcgtgg	agaaagtact	600
ccgctagaag	acagcgaaca	tacgataaac	ctcagtttat	tcattaccgt	ctgtttgtta	660
gaactatttt	atgtgttttc	aatgggcgca	aatagtattt	ggttttgcac	tcccataaaa	720
ataggatggc	tatggaccat	cattaatttc	tttatattcg	gtgcagttgt	atttaaatcaa	780

tggatgtgtt	ttttcaatac	cttgaatgat	gtgcaataca	attcctacgc	aacttttcaat	840
tggacatggg	gaatatatac	ttggggcctc	tgtatcatag	gcgctatcat	ttgtggcctt	900
ttctttttag	gctttttgcc	tgtggttaga	attggatttc	ttgtcggaca	atctgtgcaa	960
acaggtatta	ttttcaataa	agtacttccc	aaaggtggat	ggaacatgc	gtgtatctgt	1020
acattaactt	atttaattgg	ttcaacagcc	actgtcttaa	ttgtagctca	tttcctcatc	1080
cttttactaa	ttgtactaat	cgctctcttt	ctgctttcac	ttttaggaaa	atcatcttct	1140
tcatccggcg	gtaaaagatg	ctccaattgt	agccacctca	gtggttccag	ttgtaactta	1200
agcggacgtt	atatcagcag	cccgtctacc	acctattgcg	ataattacca	ataa	1254

&lt;210&gt; 3217

&lt;211&gt; 3219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3217

ctcagggatt	gttggcggaa	gcagaagaag	ccatccaatg	gtataagaac	ctgttttgag	60
acgattatta	tctggaaatg	cagcgccata	aagcgacagg	gcctaaagcc	aatcatgaa	120
gcttatccgt	tgcaggtgaa	tgtaaataag	catttgattg	aatactccaa	aaagtataat	180
gtcaagttaa	tctgtacgaa	tgatgttcac	tttgtcaacg	aagaacatgc	tgaggcgcac	240
gatcggctga	tctgtttgag	tacgggaaaa	gatctcgacg	atccgaaccg	gatgtattat	300
acgaaacaag	agtggatgaa	gacgaaggca	gagatgaatg	aactctttgc	cgatgtgcc	360
gaagcattga	gtaatacact	tgagattctg	gataaagtag	agtattatct	aatcgatcac	420
gcaccgatta	tgctactttt	tgcaatcccc	gaggactttg	gaacagaaga	aggatatcgg	480
caaaaatata	cggaaaagga	tctttttgat	gagttcacc	aagacgaaaa	cggcaacgtg	540
gtgttgagtg	aggaagcagc	caaagataaa	ataaaacgtt	tgggaggcta	tgataaactg	600
taccgtatca	aactggaagc	cgactatctg	aaaaagctga	ctttcgacgg	agctaagaag	660
ttttatgggt	atccgttgtc	accggagggtc	aaagagcggc	tggcttttga	attacatatt	720
atgaagacca	tgggtttccc	gggatacttt	cttatagtag	aagattttat	tgccgcgggg	780
cgtaatatgg	gagtcctcat	tgggtccggga	cgtgggtccg	ctgccggttc	tgccgtagcc	840
tattgtttgc	agatcactaa	aatagaccgg	atcaaatacg	atttgctgtt	tgagcgtttc	900
ttgaatccc	atcgatattc	attgcctgat	atcgatattg	acttcgatga	tgatggctcg	960
ggcgaagtgt	tacgttgggt	gacggagaaa	tatggacagg	aaaaggtggc	gcataatcatt	1020
acctatggta	ctatggctac	gaaactggct	atcaaagatg	ttgcccggtg	ccagaaactt	1080
ccgcttgccg	aatcggatcg	cttggccaaa	ttgggttccg	ataaaaattcc	ggataagaaa	1140
ctgaatctga	agaatgccat	agaatatgtg	cccgaattgc	aggcggctga	agcatctccc	1200
gatcctttgg	tgagggtatac	gatgaaatat	gccaaagatg	ttgaggggaa	tgtgcgtgga	1260
acgggtgtac	atgcctgttg	cactattatt	tgtcgtgatg	atatcacgga	ttgggtaccg	1320
gtcagcacgg	ctgatgataa	agagaccggc	gaaaagatgc	tggttaccca	atatgaaggt	1380
tccgtgatcg	aagataccgg	attgatcaag	atggactttc	tggggctgaa	aacattgtct	1440
attataaagg	aggctgtcga	aaatattcgt	ttgagtaaag	gaatggaaact	ggatatcgat	1500
tccatttcaa	tccaggtatcc	ggctacttat	aaactttaca	gtgacggacg	aacgatcgg	1560
actttccagt	ttgagtcctg	cggatgtcag	aagtacctgc	gtgagttgca	accttctacg	1620
tttgaggatc	tgattgcgat	gaatgccctt	taccgtccgg	gtccgatgga	ttatatctct	1680
gactttattg	atcgtaaaca	tggacgtaag	cctattgaat	atgataattc	tgtcatggag	1740
aaatacctga	aggatacata	cggatattacg	gtctatcagg	agcaggtcat	gcttttgtca	1800
cgtctgctgg	ccgactttac	gcgtggtgaa	tccgatgcc	tccgtaaagc	gatgggtaaa	1860
aaattgctgt	ataagttgga	tcacatgaaa	cccaagtttg	tagaaggcgg	aaggaaaaac	1920
ggacacgacc	cgaagttct	tgaagagatt	tgggcggact	gggagaaatt	tgcatcgtat	1980
gcgttcaata	aatcacatgc	cacctgttat	tcttgggttg	cctatcagac	tgcttatctg	2040
aaagccaatt	atccggctga	atatatggct	gctgtcatga	gccgaagttt	gtcgaatctc	2100
actgatatta	ccaaactgat	ggacgagtg	aaaatgatgg	gagtaacagc	gttgggaccg	2160
gatgtgaatg	aaagtaacct	gaagtttacc	gtaaaccgga	atggaaatat	acgtttcgga	2220
ttgggagccg	tcaaagggtg	gggtgaggct	gccgtgcaaa	gcattatgga	ggagcgaaaa	2280
gagaacggtc	ccttttaaagg	tatcttcgac	tttgtgcagc	gtgtcaacct	gaatgcttgt	2340
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tatgtagacc	tgatttcccg	tcctgtgaaa	ctttcgggtg	gcagagaatt	aatttcctat	3180
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&lt;210&gt; 3218

&lt;211&gt; 822

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3218

ctgctgaacc	gtatgaatth	actacaatat	acatttttttc	aacacgctct	cctggggagt	60
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&lt;210&gt; 3219

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3219

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aacaaaagta	gattatthtt	tgattatctg	caactatcta	tagagagaaa	tgcgttgcct	240
gacgtttctc	tttctaaata	g				261

&lt;210&gt; 3220

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3220

ggcgttagac	gtatgttggga	tgattctttat	tttatgaagc	aggccttgat	agaggctgtt	60
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<210> 3221  
 <211> 1293  
 <212> DNA  
 <213> B.fragilis

<400> 3221

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ccgaagaaat	tctgtctgga	tcccaccttt	gcacaacatg	atcaccagcc	actgggggtg	180
gccgtgtttg	atgatgtctt	gaagtcctct	cttccggatg	gatattctct	ttcgcgcaag	240
acgttctatc	agttcgctgc	tgacagtgc	tctgccaga	gtattcttgt	cattactcaa	300
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cgtgacagtg	tctgctggat	tggggattca	gcagtatatg	ataagcgtac	ttttcgtttt	540
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cgtcccgtga	ttcgcgggca	gcaggaagtc	ggcgagacgt	tgatgaaaga	tctgattgac	1260
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<210> 3222  
 <211> 267  
 <212> DNA  
 <213> B.fragilis

<400> 3222

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gagcagcaga	ttgtggatcg	ttatctggat	aagtataaga	taacgaataa	atcacgctgg	180
cttcgtgaga	cgattctcat	gtttatacat	aaaaatatgg	aggaggatta	tcctactctt	240
tttggtgaac	acgatatgag	gcgttag				267

<210> 3223  
 <211> 255  
 <212> DNA  
 <213> B.fragilis

<400> 3223

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tcaagtgtag	catcggaggt	ggaatcctca	caactactga	aaccaataag	tactaaaagt	180
ataacgaata	aatattctgt	tttcataaaa	gaatgttttt	ttataaagaa	cacagggtca	240
aagataatgg	tttaa					255

<210> 3224  
 <211> 198  
 <212> DNA  
 <213> B.fragilis

<400> 3224

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tggatggaca	gcggtgcccga	ttcccggcgc	ggcactcaga	aggaagactt	gccttactct	180
tactccaacg	ggcactaa					198

&lt;210&gt; 3225

&lt;211&gt; 279

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3225

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cctcaatatt	ttgtacaggg	aatatttggc	accgcagggc	tcatagccct	gctggcatct	120
atactcaact	ggaactgggt	ctttaccgct	caaaatgcac	aactgatcgt	acggaatgtc	180
ggcagaggac	gtgcccggct	gttctacgga	ctactgggag	tcattatgat	aggtatggct	240
gtcttcttct	tcctcaatac	gcaaccgcta	tcagagtaa			279

&lt;210&gt; 3226

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3226

aacatgaagg	gattagtaat	aaagaatata	ggtagctggg	atcaggtgaa	aactgatgac	60
gggcagttgg	ttgaatgtaa	gatcaaaggt	aattttcggc	tgaaaggcat	acggagtaca	120
aatcccgttg	ccgtaggtga	ccgtgtacaa	atcatactca	atcaggaagg	aacagccttt	180
atcagtgaga	tagaagatcg	gaaaaattac	atcatccgcc	gttcatcgaa	cctctccaaa	240
caatcacata	ttcttgcagc	caacctcgac	caatgtatgc	tggtgggtgac	tgtaaactat	300
cccgaacttt	caaccacttt	tatcgaccgc	tttttagcat	cggcagaagc	ctatcgggta	360
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&lt;210&gt; 3227

&lt;211&gt; 3198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3227

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gcacctgccg	gagtggtgca	ggtagaacag	cagaaacaga	aaataaccgg	ttgtgttctt	180
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ttaaacatta	ccctctaa					3198

&lt;210&gt; 3228

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3228

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acatttatcg	gccgggcacc	cgaagattat	acaccggaag	aggcggataa	attccgcgat	300
gtcttttata	caatgcagga	caccgatgta	gccggatggg	tacgtagcct	gcaactgagg	360
gggatcagcc	ttcctgatga	aataaaaagac	gaagtgtttc	tggtagtccg	cgaacggaga	420
atccatccct	ga					432

&lt;210&gt; 3229

&lt;211&gt; 222



&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (11)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3229

tgggcagact	nccgctggta	tgtctttttcc	gccatgggat	tctatccggt	ttgtcccggg	60
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aagccctgct	caatgaaagt	gaatttacct	gtaactacct	ga		222

&lt;210&gt; 3230

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3230

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aataaaaaag	cagcaatgaa	aaaatatattg	ttaaccattt	ataaactctt	attaaaaat	120
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tgtttgccgt	ttttctgttg	a				201

&lt;210&gt; 3231

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3231

cgaacagata	tggtggtgac	aaaaataaaa	atatcagcga	tgattttgac	gtgcatgttg	60
tataatgcc	tgaacacatg	cgcacgaagc	gtagacattt	cccataaagg	gtgtaagtat	120
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tga						723

&lt;210&gt; 3232

&lt;211&gt; 1356

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3232

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tacagtccgc	tgatacccg	tcccaaacaa	ggacaaacac	aaacgcgttc	cgttgtcgaa	1320
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&lt;210&gt; 3233

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3233

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&lt;210&gt; 3234

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3234

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catgcatatt	ctccgatagg	aaaagaactc	gactcactgg	cggatgacgt	cagtttttga	240
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ctggcacatt	gcaatgttat	ataccttatt	ataatggtaa	tgctcttttc	atggttgctt	540
gtggctgaaa	ttcccatggt	ctctctgaaa	ttcaaaaaatc	tttcttgga	agataataag	600
gtaagtttca	tattttctgat	tgtctgcatt	ccattactac	tgtttctggg	tatcagcgga	660
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<210> 3235  
 <211> 696  
 <212> DNA  
 <213> B.fragilis

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 attgattgta aaataaccatt ctatctgggtg gctttggtaa gtatcgctct ctatctgttg 180  
 atggttaact ttttccgttg tcccatccgg cttttcggac aggatacaga aaagattgta 240  
 gttgcaccgg cagacggaaa aatcgtagtc atcgaagaag tagatgaaca tgaatacttc 300  
 cactgatcgcc gcattatggt atctattttc atgagcatac taaatgtaca cgccaactgg 360  
 tatccggtag acggagtggg caagaaagtc actcatgata atggtaaatt catgaaagca 420  
 tggcttccga aagccagtac agaaaatgaa cgttcaatga tcgtcatcga aactcctgag 480  
 ggagtagagg taatggcacg gcaaatagcc ggtgcaatgg caagacgtat tgtaacatat 540  
 gccgaaccgg gagaagaatg ttatatcgac gagcatttgg gattcataaa attcggttca 600  
 cgtgtagatg tataatctccc gttaggcaca gaaatctgtg tcagcatggg acaattgacc 660  
 accggttaacc aaactgttat cgccaaatta aaataa 696

<210> 3236  
 <211> 1512  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (1420)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3236  
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 aatgcttacg atgaaagtgg gttcatgccc gagtgggcca gtccaggcca ccgggaatgt 660  
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 tcccgaact ga 1512

<210> 3237  
 <211> 912

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3237

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gtacccaaat aa

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&lt;210&gt; 3238

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3238

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&lt;210&gt; 3239

&lt;211&gt; 2679

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3239

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&lt;210&gt; 3240

&lt;211&gt; 1425

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3240

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&lt;210&gt; 3241

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3241

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&lt;210&gt; 3242

&lt;211&gt; 297

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3242

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aatacggaat	attctcaatt	caagatagac	tgggcggtag	ataaagacgg	aaagccggtt	180
catctggacg	gcacgcactt	cgtgaagatt	tatacagcgg	tcaaccagaa	ctgcggttgg	240
ctgggtgaag	cctctacgga	gatacaggcg	gtggaagatt	tacactacaa	gaaataa	297

&lt;210&gt; 3243

&lt;211&gt; 1575

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3243

ctaaataatc	ctaataaaac	tctaataatat	agattagttt	catgtctttg	ttgtactttt	60
gccgttcaat	atttggatgt	attccaaaca	cacgttagaa	tgaaacgaag	aaactatttc	120
atattcagct	gtttgatgct	gatggctcct	gcggtctgtc	aggcgcaatt	tgacaaaggc	180
ctaaactata	agattgaaac	cagtgcaacc	gtaagtgggtg	ggcacaacac	gccttttttg	240
ctcgtggcaa	ataagcacgg	gctttcgtct	attcgaaaaa	acaatgctta	tttggatgcg	300
ggtatctttc	gggattttgga	gaaggataaa	aagttctctt	atgccttttg	gttggaaatg	360
gtgggtgcaa	gtcgcttcac	ttctaaattc	ttcatccaac	aggcttatgt	ggatttgctg	420
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gattgctatt	atccggacgg	gacggtattg	cgtacaccgg	acagttggaa	agactttttc	840
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acgattgtcg	gagagttttt	gtatacga	caccaatcgg	gagctttcca	ttactttgct	1140
actccggcca	ttgatcattc	gtttaccgga	gctgataa	attataataa	ttcgcagtat	1200
gccggttggg	aacattgggg	acaggggtatt	ggtaatccgt	tggttacctc	acctatatat	1260
aataaggatg	gaaacctggc	ttttgagagt	aaccgtgtga	aaggattcca	tatcggtttg	1320
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ggaacttacg	gtagtccgta	ccggaatatc	agaagaaacc	agaacgggtt	gttagaagtg	1440
acttataaac	ccgaacagat	tcgggggatg	agtttcacgc	tggccggtgc	ggtagacggg	1500
ggcaatatgt	taggagaaa	ttggggaggt	atgctcacca	ttcgtaaaac	aggtttaatt	1560
ggtaagaaga	aatga					1575

&lt;210&gt; 3244

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3244

tattcttttt	atctttgcag	tgcattgggt	tgtattctcc	gtgttccggg	gatgcaatta	60
aaagggaatc	aggtgcaaat	cctgaacagt	cccgtctctg	taagtttcac	atcagattgt	120
tgtaagcaac	caccacttgc	cactgggaaa	cgtttcctgg	gaaggcgctt	atcaacagaa	180
acgagtcaga	agacctgcct	gtgcatcttt	ttcattgctt	tcgaggaaaa	agcgttgagt	240
ctaatagagc	ggaactattc	catccgtcat	tttattcatc	actctgattc	agagaaagta	300
agttatgata	ataaactctg	ccaagtttat	ttagtgtgtc	cggccgaagt	gagtttag	357

&lt;210&gt; 3245

&lt;211&gt; 1794

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3245

aacattacat	atatgaacct	acctgtcacc	caaaagcact	ttctctcttt	cagccggaag	60
ttattccctt	cggtcatttc	cctgttccct	gtgttttgcc	cctgcttcat	ggcctatcag	120
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aatctgctgt	acgagaagtt	gtacgatcac	ccacaggata	tgactgaggt	gatctccgac	240
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gggtacaaa	aggccttgta	caatggggtc	ggcttcgatg	tacgccgcac	ctccgaaaca	420
accggagtc	cctacttcta	ctccgccacc	ttatataagg	actacatcat	ccgctcggct	480
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acggcagaag	aggtattcaa	tatcagcgag	ctcaaagaga	taacggactt	catcaacaaa	960
gtcccaaac	gtcccgctcg	caaggaggag	aaacgaatgt	ccatcactat	caataaaaac	1020
gggaaaactt	ttatcgtaga	gtgcatcatc	ttccaggata	tgagctttga	gatcagcatc	1080
aacgacgtca	ctcaggaaga	agagcagatc	cgcctgaaac	ggcaactgac	acaaaacatc	1140
gcgcataaat	tgaaaactcc	ggtcagcagt	atccaaggtt	acctggagac	cattgtcaac	1200
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ttaggactag	ccattgtcaa	gaatgccgtt	atcctccacg	gcggaaacat	atcggccaaa	1740
aacagccagg	gaggcggctc	ggagtttgta	ttcacctcgg	ctaaggagag	gtag	1794

&lt;210&gt; 3246

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3246

aaatactatc	tttgtcccat	atcaaaacaa	aagattatga	tgaacaatgt	aaaatacctt	60
tcatttgcct	tgatactggc	attcagtgcc	tgtaaaagcg	gttccgcctc	tagtcaggag	120
ccttccgaaa	agcaagatac	ggtaaaaatt	ttcaattttac	cccagatacc	tgtagtactg	180
aataccgtag	aacaacgtac	ggactatatg	gtaaaacact	attgggatcg	tttcgacttc	240
tcggacacca	cctacatcaa	tcaggccgaa	gtgcccgaa	aggcttgggt	agactattgt	300
gacctgctgg	aacatgtgcc	cttgccctgtg	gcacaaactg	ccatgaaaga	aactttcaac	360
cgggcggaga	agaaccggaa	gatgcttcat	ttctttgagg	aactggccga	taaataatctg	420
tacgatccca	actcgcctat	gcgcaacgaa	gaattctata	tcccgtact	ggaagccctg	480
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gccaagggtg	cgctttatca	gttccctgcg	gaatacacac	tgctgtttat	caacaatccg	660
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gtcatcaaaa	acaaaaacct	gtatgacctg	agagccattc	ccactcttta	tttactggat	900
aagaacaaaa	ccgtattgct	gaaagacgcc	accctgcaaa	aggtagagca	gtatctggca	960
gagcgcggct	ga					972

&lt;210&gt; 3247

&lt;211&gt; 1899

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3247

tacactaacc	acctattatc	acattcgcatt	attatgaccc	cttattttaca	agtagataat	60
cttaccaaat	cttttggcga	tttggttcctt	ttcgaaaata	tttccttcgg	tattgccgaa	120
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ctctccggaa	aggagggata	tgatagcggc	aatatttgtgt	tccgccgtga	cctccgggtt	240
gattatttgg	aacaagatcc	gcaatatcct	gaagaattga	ccgtgttggg	agcctgcttt	300
caccatggta	acagtaccgt	ggagttgata	aaggagtacg	aacggtgcat	ggaaaccgaa	360
ggacatccgg	gactggatga	cctgctggta	cgtatggacc	atgaaaaggc	ctgggagtat	420
gaacagaagg	ctaaacagat	actttcgcaa	ctcaagatac	ggaactttga	ccaacagggtg	480
aagcatctct	ccggaggaca	gcttaagagg	gtagcttttg	ccaatgcttt	gattaccgaa	540
ccggatttgc	tgattttgga	cgagcctacc	aaccatctgg	atctcgacat	gaccgaatgg	600
ctggaagagt	atcttcgccg	tacgaacctc	agtctgctga	tggtgacgca	tgaccgttac	660
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cagatgaaag	tcattgacgt	tgtgcaggat	atcgccagg	tcattgagtt	gggtaacggc	1260
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agttatgtat	acaaattgag	tggggggagaa	cgccgtcgac	tttatctctg	taccgtgctg	1380



atgcgtaacc	cgaacttcct	ggtacttgac	gagccgacga	atgatctcga	tattattacc	1440
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gaccgctact	ttatggataa	agtggctgac	cacctgttgg	tattcaacgg	acagggagat	1560
attcgtgact	ttcccggtaa	ttacagcgat	tatcgtgact	ggaaagaagc	caaataccaa	1620
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aagcgcaaga	tgagtttcaa	agagaaacgg	gaattcgaac	aactggaaaa	ggaaatagcc	1740
gagctggaaa	cagagaaact	acagatagaa	gaactgctct	gcagtgggtac	gctttcggta	1800
gacgaactga	cggagaaatc	gaagcgattg	cccagggtaa	acgatctgat	agacgagaaa	1860
accatgcgtt	ggcttgaact	tagcgaaaata	gaatcatga			1899

&lt;210&gt; 3248

&lt;211&gt; 855

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3248

ggttatcaac	attcagaaaag	caatatgata	caaggcaaga	aatttatctc	cccggggaca	60
tggtttctca	tgatatatcc	gtcagactgg	agcgaatttg	aagacggcga	aggctccttc	120
cttttttata	atcccgaaca	ttggacgggt	aatttccgta	tatcagccta	taaagaagat	180
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gcactgatac	actaa					855

&lt;210&gt; 3249

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3249

gaagaaatga	aaaaaggaat	cctattgttg	tttgtcgtcc	tgatgggttt	cacgtcgtgt	60
ggaaagaaat	tcgggcatcg	ctatctggat	ggaatgtggc	agatgcaacg	tatagaatat	120
aaagatggta	atatcgatac	tccactggac	acttatttca	gttttcagat	ggatatcatc	180
cacttgagga	agttgggtaa	tagtgagttc	tatggaaaat	atgtctacga	gaacgactcc	240
atgcacatac	aagtactcga	cgctacggcg	gaacagatga	aagttttcgg	catggatggc	300
cgggtacagg	actttgccgt	agagaagctg	aacagtaaca	aattggttct	tcagtcggac	360
tatgcccggt	tggaattcag	aaaatattga				390

&lt;210&gt; 3250

&lt;211&gt; 1749

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3250

gatactaaag	atactccaga	cattgaatca	gtaattatca	aaagaatcag	caatatgaaa	60
acaacttcat	tcaataacgg	cagaagcaat	tcctcttccc	tctttcggag	aggtatcgga	120
ggcgtgtcct	tctttttcct	cctcttcctg	cttctcttcg	cctcgtgcga	tgacctggaa	180
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ctctacatcc	tcagcgaagg	actcttcaac	ctgaacaaca	gctcgtggc	tttgtattcc	300
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gataccgcca	atgacatggg	catttatgga	agcaaactct	atatcgtggg	caatgtatcg	420

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tcagaaaacg	gaagttcccc	gcaaccccc	aacatcgctt	tcgacggagg	caaggcatat	540
gtgtgttcc	tcgacggaac	agtggcgcg	atagatactg	cctctctttc	catcgacgca	600
ctgacccggg	cgggcagaaa	ccctgacggc	atctgctg	agaacgaaa	gctgtatgtt	660
ttcaattccg	gaggactgga	ctgggaaggc	atcggggtag	accgcacggt	ctctgtgatc	720
gacatccctt	ctttcaccga	aatcaagaag	atagaagtag	gtcccaatcc	gggagatata	780
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agtccgcagg	gacaacttat	atttaagctg	cccaatgtgg	gaatcaactc	caataccgtc	1200
ctgttccgga	acaaagctc	ccaaggcaat	cctgacgaaa	atcccgagca	cgcggaagca	1260
ggcgctttcg	ccaataaagt	attggagtag	aatccggcgc	catcacaata	tatgaatacc	1320
tcttatactg	cttacgaaga	gggattcacc	ggtattcaag	tgttggcacg	cgccaccgaa	1380
ctgctgcagg	accgcaccac	ctgtctcttc	acgctcggag	gattcggagg	taacattacc	1440
gtgggattcg	accataccat	ccccaacgtc	cccggtgaat	atgacttcaa	gatatacggc	1500
aacgcctact	atgatatgta	tggcactctg	ctggataaac	ccggaggaaa	ctccgaaccg	1560
ggaatcggtc	ttgtatccaa	agacacgaat	ggcaacggat	tgccggatga	tgagtggtag	1620
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taccgtccc	cttcggcaga	cggggatgtg	aaatggaag	acaatcaagg	caaagaggga	1740
tacatctaa						1749

&lt;210&gt; 3251

&lt;211&gt; 1241

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (13), (14)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3251

ttgaaacctg	tgnncctgac	cgtgtgctgc	cttccagccc	cgtggtgaag	actacagctg	60
tattttctggc	caatgtagag	aaaacacagt	tcccgattcc	cgtttcgggc	ggagggaacca	120
actatgcgga	tgtgctgacg	aactaccaga	caacgcgtgc	gaatgcccg	atcgtgttac	180
ccggtgcgga	gtttaccgac	acttcggaat	tttatctggc	caatgtatct	ttctcggata	240
cctctgctca	accttatgta	ctgttgacgc	gtattatcag	tatgctgaat	ttgcgaagag	300
tgtttgtgga	tgcacaaacc	gctttgaatt	ctctgaccaa	taatattgtg	acgcaagtag	360
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accgatatcg	ttcgaactat	tcgtttgtca	gcctggggct	gaaatcgat	gcacagcaga	1020
gcgacggaaa	ccattcgtcg	acactctctg	tacagttgaa	gaatattgct	aacctggatg	1080
gtatcttggg	aggaattacc	gtgctcggtc	ctgtgttgaa	tggaaccgtt	agattattga	1140
tgggcaatat	aacggttacc	gttccggtga	atcttctttt	gcttgggaacc	gataaacctga	1200
cgtgtccgg	tagctggagt	acaccaccgg	tacaatatta	a		1241

&lt;210&gt; 3252

&lt;211&gt; 2109

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3252

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agatactaa						2109

&lt;210&gt; 3253

&lt;211&gt; 1452

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3253

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&lt;210&gt; 3254

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3254

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&lt;210&gt; 3255

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3255

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tga

1203

&lt;210&gt; 3256

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3256

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&lt;210&gt; 3257

&lt;211&gt; 1419

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3257

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&lt;210&gt; 3258

&lt;211&gt; 1230

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3258

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cctcaaaaact cctatttttat gagctctact caaaaaaact ttgctctgcc gtttagcattt 60
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atggccggat ataaaatcag aaaaaataa 1230

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&lt;210&gt; 3259

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt;

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(91), (92), (93), (94), (95), (96), (97), (98), (100), (101), (102), (103), (104), (106), (107)
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&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3259

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ccc 903

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&lt;210&gt; 3260

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 <213> B.fragilis

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 atgactactg cccaagagtt tcaggcctat ccctacgaca gaatcatcag tactcttggc 720  
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<210> 3261  
 <211> 435  
 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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 attggttcta ccgatcccgt ttacttgaag cgtttactgg gcagtttgtg ttactggcgt 360  
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<210> 3263  
 <211> 564  
 <212> DNA  
 <213> B.fragilis

<400> 3263  
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 gaatcttttg ctgttgacag cgcatttgtc attttcttga tgtcactgga aatgatctta 240

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&lt;210&gt; 3264

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3264

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gaaagaggcc	tccattttga	aggtggggcaa	atcggagcca	ttttcgcaac	aatgggaatc	180
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ctttcgctcg	ccaatactgt	ttcgtacaat	gcactcgaac	aatataaatg	cgatttagta	420
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&lt;210&gt; 3265

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3265

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&lt;210&gt; 3266

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



<400> 3266  
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 gccaaagccg gcattgccgt aggagccgac ggtctcttta ttgagacaca cgaaaatccg 660  
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<210> 3267

<211> 987

<212> DNA

<213> B.fragilis

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<210> 3268

<211> 2832

<212> DNA

<213> B.fragilis

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gaaaagaaat aa 2832

&lt;210&gt; 3269

&lt;211&gt; 276

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3269

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cgtcaaagag gtactgaatt ccacccgggt gaaaacatcg gtatgggtaa ggaccacact 180  
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gtttctatca tccctgctga agcaacagaa gcataa 276

&lt;210&gt; 3270

&lt;211&gt; 1113

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3270

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tataatgaat	ggaaaaaaga	atcaaataaa	taa			1113

&lt;210&gt; 3271

&lt;211&gt; 1023

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3271

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taa						1023

&lt;210&gt; 3272

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3272

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gcatttttgt	ttccttcgta	tcttttag				267

&lt;210&gt; 3273

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3273

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------------	------------	------------	------------	------------	-------------	----

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&lt;210&gt; 3274

&lt;211&gt; 1197

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3274

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aacatctatc	acccggaagg	ggaatatctc	aaaggattgg	tgctctatgt	agaataa	1197

&lt;210&gt; 3275

&lt;211&gt; 2292

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3275

ataatgaaca	aaatcattag	caaagaacac	ttttcggaga	aagtattcaa	acttgtcatt	60
gaagctccgt	tgatagcaaa	atcacgcaaa	gcaggtcatt	tcgtgattgt	gcgtgtcggg	120
gaaaaggagg	aacggatgcc	actgaccatt	gcagccgccc	accggaaggc	aggaacgatc	180
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acagtagtat	gtgccggagg	tgccgtagggt	gtagctccga	tgctacccat	cgtacaggcc	360
ctgaaggcag	ccggaaaccg	tgtgatcacc	gtactggcag	gacgtagcaa	agaactgatc	420
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aagaaatatg	aaattccgac	agaagtatca	ttaaatacaa	ttatggtgga	tgccaccgga	660
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actgtcatcc	ttgccatggg	agacggacgc	cgtgccgcag	cagcaatgaa	cgaacaattg	2280
agttccaagt	ag					2292

&lt;210&gt; 3276

&lt;211&gt; 1524

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3276

acaaaaataa	ataagaacct	agatacgacg	atcatgaaag	caaaatatgt	atgggtagca	60
ctgcttgcc	tgaactttct	cggatgcatg	gataatacag	gtactatcgg	atgggatag	120
cttccggata	gagacacaaa	tatcaatgga	agatatacga	cttacgagtt	aactacgaat	180
tccgacctat	caggctcctgt	ttttgccaaa	accagcgtag	gttatgtggg	aaaattcact	240
gataaagaat	tccggagaata	cgaagccagt	ttcctcgcac	agttgaatag	tccggatgga	300
atttcttttc	cttcggtcta	cgatccggaa	actaatccca	aaggggtaat	ggcaggagac	360
tctattcaca	ccgctgaatt	gatcttatac	tataaaaagt	attttggaga	ctctatcaat	420
ccatgccgaa	tgaactgtta	tgaactggac	gaaaacttga	cccagaacta	ttatacagac	480
atcgatccat	tgaagtatta	caatccaaac	aacttactcg	cacgaaaagc	ctacacagct	540
gttgaccaat	cactcagcga	ttccatcaga	aactcagatg	acttttatcc	taatgtccgt	600
cctaacttctg	aagagatcac	gaaactagg	aaacgtatct	atcgtttgaa	cagagatcac	660
ctggaatatt	ttaaaacttc	ggaagcattt	attaataacg	tattcaaagg	tatttatgcc	720
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atccgatgcc	acgaaaaaga	cagcttggga	aataatctga	agaaaaaaa	tgggtgctgac	840
tctttatact	acacaacccg	tactttcgct	acaaccaagg	aagtaattca	agccaataag	900
tttggttaatt	ctgaaaaact	aaacgaaatc	gctaaaaaga	cagactgtac	ttatttgaag	960
tctccggccg	gtatcttcac	acaagctaca	ttgccgatca	ataagattta	tgaagaatta	1020
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gggaaattta	gtatgaaagc	acctacatat	gtgttacttt	tacgtgagaa	agaacggcaa	1140
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gctattattt	ccaataaacc	tacaaccaat	cagtatgtgt	ttaccaactt	gactcgcttg	1260
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gaagcagctt	gggaagcagc	aaatccggat	tggataaaag	tggacttat	cccgtactg	1380
gtacagtacg	atagctcttc	caataagaat	atgatcagca	tccagcacga	tctacaaccg	1440
ggatacgtaa	aactggaagg	tggctccggac	ggtacgaaac	tgaagttaga	agtaacttat	1500
accaacttca	acggtaagca	gtaa				1524

&lt;210&gt; 3277

&lt;211&gt; 918

<212> DNA  
<213> B.fragilis

<400> 3277

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gaaagagcac	aaatgcaatt	gcgtaaatca	cggttgaaat	tctcacggtt	gaatcatatc	180
tttatctcgc	atctgcatgg	tgaccattgc	ttcggattga	tgggacttat	ttccactttc	240
gggttactgg	gacgtacagc	tgaattacac	attcattctc	caaaaggatt	ggaggagtgt	300
ttgactccca	tgtcaatttt	cttttgccat	acattggcct	ataaagtcac	ttttcatgaa	360
ttcgatacca	gacagacttc	agtgggtttac	gaagatcggt	cgatgacggg	cactactatt	420
ccgcttcagc	accgtattcc	ttgttgtggc	tttctgtttg	ccgaaaaagc	acgcccta	480
catattatac	gtgatattgg	cgattttttat	aagggtgcctg	tttacgaact	aaaccggata	540
aagaatggat	ctgattacgt	gactcccgag	ggagaagtga	ttgccaatac	acgtttgacc	600
cggccttcgg	atcctcccag	aaagtatgcc	tattgttcgc	atacgatttt	tagggcggaa	660
atagtgaac	aactttccgg	tgtcgactta	ctttttcatg	aagcgacctt	tgccgaatca	720
gagttggcac	gtgccaaaga	aacctatcat	actacagctg	ctcaggcggc	acggatagct	780
ttggaggcgg	gggtacgcca	gttggttaac	ggtcactttt	ctgcccgtta	cgaagacgag	840
agtattttgc	tgaaagaagc	ttcggcggtg	ttcccgaata	cgattctggc	aaaagaaaat	900
ttgtgtataa	gtcttttaa					918

<210> 3278

<211> 480

<212> DNA

<213> B.fragilis

<400> 3278

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cgtgctgtgg	gaagtcctaa	tcaacatttg	tcacccaaag	aattcagggc	caaacaacaa	120
gcattttata	cagaaaaagc	tggcctgact	caagaagagg	ctgcgaagtt	ttttccgggt	180
tattttgaac	tgcaggatcg	gaaaaagcaa	ttgaatgacg	aagcatggaa	attgcttcgt	240
agcggtaaa	atgaaaagac	taccgacact	caatacggag	aaatcctgga	aggagtttat	300
gatgcccgta	tgccttcgga	tcggctggat	aagacttatt	ttgagaagtt	taagaaaatc	360
ctttcgtgca	agaaaattta	tctggtgcaa	agagccgaga	tgcgtttcca	ccgcgaactg	420
ctgaaaggag	tacgtgataa	taaagggtga	aacgaacgtc	cacagggaaa	gaggaaatag	480

<210> 3279

<211> 699

<212> DNA

<213> B.fragilis

<400> 3279

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cttccgctgt	ttctaatttt	tatcctctac	atgataaagg	tttttagagat	aggtatggac	120
tgggacttta	tcagtttagg	agtataccct	ttgtcaaaaa	aaggatattg	tggtattttc	180
actcatcctc	ttatacatag	cagcttcaaa	cattttattga	ccaacacttt	accactattc	240
ttcctttcat	ggtgtctttt	ttacttttac	agaagcatag	ctccctctat	ttttcttata	300
atctggatag	gatgtggagc	cattacattc	cttatcgcca	agcctgcctg	gcatacgggt	360
gccagcggta	ttatctatgg	actggctttc	tttcttttct	tcagcggact	gttacgaaaa	420
tatatccctt	tgattgccat	atctctatta	gttacctttc	tctatggagg	tcttatatgg	480
aatatgctcc	cctatttttac	accatccggc	atttcgtggg	aagggcattt	aagcggagct	540
atcataggta	ccatctgtgc	tttttctttt	atgggttacg	gcccgcaaaa	gccggaccct	600
ttcgcaaatg	aacaagaaga	ggaatccgtc	tcagcaacag	atgaaacaga	taatatcgaa	660
atggataaag	aagaagaaca	cgaaatcgat	gcagaatag			699

<210> 3280

<211> 791

<212> DNA

<213> B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt;

(26), (149), (157), (163), (270), (274), (354), (376), (393), (406), (465), (512), (543), (544), (558), (584), (585), (629), (666), (667), (701), (703), (708), (716), (717), (726), (727), (729), (730), (732), (734), (741), (742), (743), (744), (745), (747), (748), (750), (751), (752), (756), (757), (759), (761), (762), (763), (765), (766), (767), (768), (769), (770), (771), (772), (773), (775), (776), (777), (778), (779), (780), (781), (782), (783), (784), (785), (786), (787), (788), (790), (791)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3280

ggggagagaa	gggaaaaaga	agaganagga	gaaagaaaga	aaagaaaagg	aggaggaaag	60
aagaagagaa	aaaggggaaag	aaagaaaaaa	agagagagag	gaaagaaaaa	agagagagaa	120
agaaaaagag	aaaagggggga	gaaaaagana	aagaagnggg	ggnagaggaa	aggggaaagg	180
gggaaagaag	aaggagggaaa	ggaaagagga	aaagagaaga	aggaaaagga	aggggaaggga	240
aaagaaaaga	agaggggaaaa	aagggaaggn	aagngaaaaag	gagaaaaaaa	aaggaaagggg	300
agagagggaaa	aaaagaaaaa	ggggggaaaaa	aggaaaaaaa	aagaaagaag	aagngaaagg	360
aagaaaagggg	aagaanggaa	aaaaaggaga	agnggggaaga	aggaanaaag	ggagagaagg	420
ggaggggagag	ggaaagagag	gagggaagag	aaaaaggaag	aaggnggagg	gataaggaga	480
aaaaggagag	gaaaggaagg	aagggaaggga	anagaaaggg	aagaaggaga	aaaggagggg	540
aannggaaag	aaaggaanga	aaaggaagag	aaaaggaag	gggnnaaaaa	aaggagaaga	600
aaggggaaag	gggaggaaaa	aaaagaggna	gaaaaagggg	gggaaggggga	aaaagaaaaa	660
gaggggnngag	aaggaagaga	gaaagagaag	gggggggagg	ngnagggnga	aggggnnggg	720
gaggggnngnn	gngngggggg	nnnnngnngn	nnaagnngng	nnngnnnnnn	nnnnnnnnnn	780
nnnnnnnnntn	n					791

&lt;210&gt; 3281

&lt;211&gt; 1221

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3281

cagaatattg	aaattatgaa	caacttagtc	tggaaagctgc	tccgtcagca	tatcagcatc	60
ggtcagttga	ccggtttctt	ctttgccaac	cttttcggaa	tggttattgt	gctactcagc	120
gcacaattct	acaaagatgt	agttcccatc	tttaccgaag	gggatagctt	tatgaagaaa	180
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gataaatggc	attttgatga	aaacacgcac	accatcccta	tcattcattcc	gcgcaattat	480
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ttgatgagcc	tgatccaaat	ggatattctg	atgcggggca	acggacgggt	tgagcaatat	600
aaaggaaaaca	tcgtcgggctt	ttccaaccgg	ttgaatacta	ttttgggttc	acaatctttt	660
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aacctgttgt	ttccacaaat	gtctgtcggg	tctctctggc	caactttcgc	cataggtata	1140
tttttattct	tattgggtgc	ttccatcaac	gttattatac	tgaaaaagaa	gatgttgtca	1200
atatggatac	acaaagcata	g				1221

&lt;210&gt; 3282

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3282

acaataactg	aatgaaaca	aacaaaaacg	attttagcag	tcattctgtt	ggtggtatta	60
gtgggggtgtg	gagaaaaat	acagtcaaac	aatgatttaa	tcattgttga	cgtttcgaaa	120
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gtgattatgt	tagtaaaaca	aaaaaaataa				1170

&lt;210&gt; 3283

&lt;211&gt; 531

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3283

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atcggcctga	gtggctgccg	cacctctgct	cccaaactag	actataagaa	attggcccgt	120
gcttctgtac	gcttgggctg	agacatcggg	atggaggata	accataaaact	ctacctggaa	180
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ctggatattt	tcagtagccg	gaaatcgccg	agaaaagtgg	cacacgtggg	catctatctc	420
aaagacggaa	agtttggtca	tgccagcacc	agccaggagg	tcattgtcag	cagtctcaat	480
gaaccctatt	accggactca	ctggatatcg	ggaggcagag	tacgcaaata	a	531

&lt;210&gt; 3284

&lt;211&gt; 1401

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3284

aacaatatag	atatgagaac	aatctgtctt	tatttttgaga	tacatcaaata	tattcatctg	60
aaacgttacc	gcttcttcga	cattgggtgcc	gaccattatt	actatgatga	ttatgccaat	120
gagacaggta	ttaatgaggt	tgccgaacgt	tcttatattc	cggtctctca	tacattgatt	180
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gacttcaagt	tatcggatga	tatcagtttg	cgctctctca	actctgattg	gagtgagtat	660
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aatgaagagt	tgaattcatt	gttgacaact	atcaagaacc	agggagaaga	gatcgccgaa	1260
ttacataagg	aggttgataa	gttgcaggca	aaagcggaaa	aggctgcaa	aacagtaaag	1320
gccgaaccca	aagctgcacc	taaaaaggcc	gctgcgaaga	aacctgctgc	aaagaaagca	1380
acggcaaaaa	aagaagatta	a				1401

&lt;210&gt; 3285

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3285

gggttaacag	atgcttgtaa	gaatgcgttt	gccgtgccgc	tgacaaaaga	ggctaccaga	60
aaaagaggaa	aactctcctg	gctggccgat	ggaatgtaca	aaccgaaagc	tacagcgaa	120
atggcaaacg	aaagtgccat	ggtgtgtttg	tatccgatag	ctttgatagt	catcgaagcc	180
ggatag						186

&lt;210&gt; 3286

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3286

gtgattaaag	accacccgac	ggagctaact	tacattttatt	tatataagat	gtacgcaatt	60
gtagaaatca	acggtcagca	atttaaagct	gaagctggcc	aaaaattggt	cggtcaccac	120
attcagaatg	cagagaacgg	tgcaacagta	gaatttgaca	aagttctttt	ggtagacaaa	180
gacggaaaac	ttactgtagg	tgtcctact	gtagacgggtg	caaaagtagt	ttgccagatt	240
gtttcaagcc	tggttaaagg	tgacaaagtt	cttggttttcc	acaagaaaag	aagaaaagggt	300
cacagaaaagt	tgaacgggtca	ccgtcagcag	ttcacagagt	taacaatcac	agaagtagta	360
gcttaa						366

&lt;210&gt; 3287

&lt;211&gt; 475

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (26), (149), (157), (163), (270), (274), (354), (376), (393), (406), (465)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3287

ggggagagaa	gggaaaaaga	agaganagga	gaaagaaaaga	aaagaaaagg	aggaggaaaag	60
aagaagagaa	aaaggggaaag	aaagaaaaaaa	agagagagag	gaaagaaaaa	agagagagaa	120
agaaaaagag	aaaagggggga	gaaaaagana	aagaagnggg	ggnagaggga	aggggaaagg	180
gggaaagaag	aaggaggaaa	ggaaaagagga	aaagagaaga	aggaaaagga	agggaaggga	240
aaagaaaaa	agaggggaaaa	aaggggaaggn	aagnaaaaag	gagaaaaaaa	aaggaaagg	300
agagaggaaa	aaaagaaaaa	gggggaaaaa	aggaaaaaaa	aagaaagaag	aagnaaagg	360
aagaaaagg	aagaanggaa	aaaaaggaga	agnnggaaga	aggaanaaag	ggagagaagg	420
ggaggagag	ggaaagagag	gagggaagag	aaaaagggaag	aaggngggagg	gataa	475

&lt;210&gt; 3288

&lt;211&gt; 1800

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3288

ttattaatgg	aaaacttaaa	gaacgttgct	cctattgaag	acttcaactg	ggatgcgtat	60
gaaaacggcg	agagcttcgc	tggtgccagc	cacgaagaac	tcgaaaaagc	ttacgacggg	120
acgcttaaca	aagtaaatga	ccgtgagggt	gttgacggaa	ctgtaatcgc	aatgaacaaa	180
cgtgaagttg	ttgtgaacat	cggttacaaa	tcagacggta	tcattccttt	gaatgaattc	240
cgctacaatc	ctgatttgaa	agtaggtgat	actggtgaag	tatacatcga	aaatcaggaa	300
gacaaaaaag	gacagttggg	tctgtcacac	agaaaagctc	gcgctactcg	ctcttgggat	360
cgcggttaatg	ctgctctgga	aaacgaagaa	attatcaagg	gttacatcaa	gtgtcgcaat	420
aagggtggta	tgatcggtga	cgtattcggt	atcgaagcat	tcttgccggg	ttctcagatc	480
gacgtgaaac	cgatccgtga	ctatgatgta	ttcgttggca	aaacaatgga	attcaaagtg	540
gttaaaatca	accaggaatt	caaaaacgtg	gttggtttctc	acaaagctct	tatcgaagct	600
gaactggaac	aacagaagaa	agaaattatc	ggtaagctcg	aaaaaggaca	agttcttgaa	660
ggaaccgtta	agaatatcac	atcttatggg	gtattcatcg	acctgggtgg	cgtagacgga	720
ttgatccaca	tcactgacct	gtcttggggc	cgcgtaagcg	atccgaaaga	agtgggtgaa	780
ctggatcaga	agttgaacgt	tggttatctc	gacttcgatg	acgagaagaa	acgtatcgct	840
ttgggtctga	aacaactgac	tccgcacca	tgggatgctt	tggatccgaa	ccttcaggta	900
gggtgacaaag	tgaaaggtaa	agtagtggtt	atggctgact	acgggtgcatt	catcgaaatc	960
gctccgggtg	ttgaagggtc	gatccacgtt	tcagaaatgt	catgggcaca	gcatttgcgt	1020
tctgcacaag	acttcatgaa	agtcggtgac	gaagtagaag	ctgtagttct	gactttggat	1080
cgcgagaac	gtaagatgtc	tttgggtatc	aaacaactga	aacaagatcc	atgggaaact	1140
atcgaagaga	agtatcctgt	aggttctaag	catactgcta	aggttcgtaa	tttcaactaac	1200
ttcgggtgat	tcgtagaaat	cgaagaagg	gttgacggac	tgatccacat	ctctgacctt	1260
tcttggacta	agaagggtta	acaccctgca	gaatttactc	agattgggtg	tgatatcgaa	1320
gttcagggtat	tggaaatcga	caaagaaaac	cgtcggttga	gccttgggtc	caaacaactt	1380
gaagagaatc	cttgggatgt	attcgaaaca	gtatttactg	taggttctgt	acacgaagg	1440
acaatttatcg	aatgctgga	taaaggcgct	gtagttgctc	ttccttacgg	tgttgaagg	1500
ttcgtactct	cgaacatct	cgtaaagaa	gacggttcac	aggctcagat	ggacgagaaa	1560
ctggaattca	aagtgatcga	gttcaataaa	gatgctaaga	gaatcatctt	gtctcacagc	1620
cgcattttcg	aagatgttgc	taaggcagaa	gaaagagctg	aaaagaaggc	tgttcttaac	1680
gcaaagaaat	cttctaagag	agaagaaact	cctgctatcc	agaaccaggc	tgttcttaca	1740
actctgggtg	atatcgatgc	tttggctgct	ctgaaagaac	agttggaagg	taagaagtaa	1800

&lt;210&gt; 3289

&lt;211&gt; 1941

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3289

tcataccttt	gtttccgctc	aaaagaaacg	aacatacaaa	tgaaacagac	accattcaga	60
tgcccttgcc	tccttcttat	attggttgga	gctgttcatt	cccggctatc	tgcccatgca	120
gataaaacaa	gggaagacgt	attgtttcta	aattctatca	atttcaacct	tccatgggca	180
aaggatgtgt	tctggtatac	gcaccaagcc	ctgcaaaaga	agaatatctc	cgtaaaggcc	240
gagtcctttt	cggtgcccg	tttgtgtaac	cgtaaagaag	cagcagccgt	agtagagcag	300
ttacggcgga	aatacgatgt	gcctccccga	ctgatcgtct	ttatcggcga	tccgggatgg	360
attgtttgcc	gtgaactttt	tgatgatgtc	tggaaaggatg	taccgggtcat	cattaccaac	420
gcccgcgacc	gtctgccggc	tacactcgac	atcttgcttt	cacacgaaga	gctgaccgaa	480
tcgaataactg	tccccgctta	tgaatggcgg	aaaggatata	acgtgactac	tctggggcaa	540
gtatattatg	tgaaagaaac	catcggaactg	atgcccgcagc	tgatgccgga	tatgaagcgt	600
ctggctttca	tctcagacga	cagatacatc	agtgaggcag	ttcgcggaga	tgtagagcag	660
gcaatgaccg	gatcttttcc	ggagttggcc	tttgaacagc	tgccaccag	gaatatttct	720
accgagatgt	tactcgatac	cttgaagagt	tatgataaaa	ccacgggact	catttattat	780
tcttgggttc	agactcataa	ccaggatgat	aacaattatc	tgttcgatca	tattcaggag	840
atttactactc	gcttcgtaca	ttccctctcg	tttttgttgg	ctcccaggga	tctgtccaac	900
aatacttttcg	ccggaggata	ttatgtttca	gtggagtcct	tcggcgattc	attgttacag	960
ctgattcatc	gtgtcctgga	aggtgagttt	ccgcgagaca	ttcctcccg	tctcggagga	1020
aaacctgctg	cttacctctg	ttatccggct	ttgcagtcgt	atgacatacc	ggtttccctt	1080

tatccgaaag	aggctgtgta	cattaatctg	cctgtcagct	tcttcgagca	gtataagaag	1140
gagattctga	tgactgttgt	cttgctgctg	gtgggtgtca	gtgccgtagg	ctattatatt	1200
catattctta	aaagagccca	tcagcgaatg	aaagaagcgc	agctgaaagc	cgaggaagcc	1260
aatcagctta	aatcggcctt	tctggctaata	atgagtcatg	agatacgtac	tcctctcaat	1320
gccattgtcg	gtttctcgaa	tctgctttct	atggtagaag	ataaagaaga	aatgctggag	1380
tatgccggta	ttatcgaaac	caataccgaa	cttttgcttc	aactgattaa	cgatattctg	1440
gatatgtcga	agatagaatc	cggaatgtat	gactttcatg	tgactcaggt	ggatgccaat	1500
cagttgatgt	cggaagtcga	acaggtagcc	cgtttgcgta	tcaggacaga	cgaagtctcc	1560
ctctcgtttg	ccgaacgttt	accccaatgt	gttttccata	ctgataagaa	ccgcttgata	1620
caggttctta	ccaatttggg	tgtcaatgcc	ataaagttca	cttcgcaggg	agagattcag	1680
atcgggtatc	ggctgcaaga	tgcccatagc	ttatacttct	atgtatccga	taccggttgt	1740
ggtatgtccg	tcgagcaatg	cgaacatggt	tttgagcgtc	ttgtcaaata	caacactttt	1800
atacaaggca	ccggattggg	actgtctatc	tgcaaaatga	ttattgagaa	gttggggggc	1860
gagatcgggg	ttcagtcgga	gtccggaaaa	ggttctgtct	tttggttcac	tcttccttac	1920
cgggcttcgg	cctctttgta	a				1941

&lt;210&gt; 3290

&lt;211&gt; 657

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3290

tcttcaacgt	gtatggacag	cattcaccta	cagcaaacac	ttccccaagt	gtttgctgac	60
cgtaattcga	taacttcgga	tgtatggcat	cggaatcttg	ttttccataa	aggaaaatct	120
tacctgatcg	aggctgcctc	cggtaccggg	aaatcatcgt	tgtgcagcta	catctacggc	180
taccgaaacg	actatcaggg	aatcatcaac	ttcgacgaaa	ccaatatcaa	agcataccgg	240
gtgaagcaat	gggtggaaat	ccggaagcat	tactgagta	tgctttttca	ggatttacgc	300
atttttacgg	agttgaccgc	catcgaaaac	atccgactaa	agaataacct	gaccggatat	360
aaaaccggaa	aagaagtatt	atcactgttc	gaagccttgg	gactctcgga	caaactgaac	420
gtgaaggcag	gcaaactttc	tttcggacaa	caacagcgag	tggcgttcat	ccgatcgctt	480
tgtcaacctt	tcgacttcat	tttcctggac	gagcccatca	gtcatttgga	cgacaacaat	540
gcacgtatta	tgggagaact	ggtaatggaa	gaagccagca	aacaaggggc	gggaatcatc	600
gtaacgtcca	tcggcaagca	tatcgagtta	acgtatgaca	gaatattgaa	attatga	657

&lt;210&gt; 3291

&lt;211&gt; 2223

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3291

tatttgaggt	gcaatatatt	aatatgggtg	ttttggttat	tctcgctctg	ttttgttcaa	60
aagggagtg	ctaacgttgt	tcttgatcct	cagaccaatc	gtcccatctc	tgccgattct	120
attttggaata	atgtgatgac	tttcgctcct	ttttacgaaa	agttagttag	cgactatcgg	180
gccgatctat	atataaaagg	tacgatggac	atcaaacgaa	agaattttat	tctccggtat	240
gtaccttcca	tgttcgctct	tcaaaaagg	gtacggcagt	atatgggtgga	gacgtatagt	300
gatctgcatt	ttacagctcc	taatatctat	gaccaaagg	tgaaagcttc	tatgggcact	360
gtgcataata	gccggggagt	accgggggat	ctcgagtatt	tcaatatcaa	tctttattct	420
tcaacgctgc	tttacgaccg	attgctttcg	cctttggcca	aaaacggggc	gaaatattat	480
aagtacctga	tcgattccat	aatgggtggg	acggacaacc	gacaatataa	gatacggttt	540
atccccagaa	gtaagagtga	tcagttgggt	gggtggatata	tgattgtgag	tagtgacgtg	600
tggagtgtcc	gcgaaatacg	tttttccggc	aggctcggaac	tgctattggt	cagttgcctg	660
ataaaaaatgg	gtagtgtagg	aaaggatgat	gagtttcttc	cggtcagcta	taatgtcgaa	720
ggacagttta	attttttggg	taaccgtatt	aatggagttt	atgtggcatc	gctcaactat	780
cacgatattg	tgcctgaaga	aaatcagaat	aaatggaag	agaagggtgag	ggcgagaata	840
aaaggaaaaa	gtaaatatga	tctttcagac	tcttaact	tgcaatgcga	gactacctct	900
ttccatacgg	atagtgccta	ttttgaaaca	ttgaggccta	ttcctttgtc	ggaggctgag	960
cgcagactat	acaaagaaga	tgcgttgctg	aaagatacca	ttcaacgcaa	catcaaacca	1020
aagagtaaga	gtcaggtgtt	ttggggacag	gtggggagacg	tactgatcag	tgactataaa	1080
ttgaacctct	ccaatctggg	aagcgtgaag	tgctcaccac	ttatcaacc	tttcttgttg	1140

agttatagcg	ggagcaatgg	gctttcctac	aggcaatcgt	ttaaataataa	ccgactttttt	1200
aagcatgac	ggctattgcg	tgtggtacct	aagttgggct	acaactttac	acgaaaagaa	1260
ttctattggt	ctgtcaatac	cgaatttaac	tacctgccc	agaagatggg	agctgttcac	1320
attgactttg	gtaacggcaa	ccggatttac	agtagcgatg	tgcttgatga	tttgaaagcc	1380
ataccgcaca	gtgtatttga	ttttaatcag	attcatttgg	actactttta	cgatttatat	1440
tttaacttcc	gacacagtat	cgagattatt	aatggattag	agttaagtgt	aggcttatct	1500
acccataggg	gaaaggcggg	aaagtcctct	aagttggttc	cactgacaaa	gagtcgggag	1560
acactcaatg	aagatatcca	gaacaaaatc	aggaatacct	atltgagttt	tgcccctcgg	1620
gttcgggttg	agtggacccc	ttgtttatac	tattacatga	acggacaccg	taagattaat	1680
ctccgttcta	agtatcccac	tttttcgata	gactgggaga	ggggaatcaa	gggggtattt	1740
ggcagtaacc	gacaatatga	acgtttggag	tttgatttgc	agcatcatat	acccttggga	1800
ctgatgcgta	atatctatta	tcgttttgga	tttggtatgt	ttaccaatca	aaaagaaatg	1860
tattttgtcg	actttaataa	ctttaccgga	agtaatcttc	ctgaagggtg	gaatgacgaa	1920
atcggaggag	tatttcagct	tctcgaccgt	cgttgggtata	atgcttcacg	gaaatatata	1980
cggggacatt	ttacttatga	agctcctttc	ctattattaa	aacatctgat	taaatacaca	2040
cgttatgtac	agaacgagcg	gttgatgcg	agtatatgtg	cagtacccca	tcttcagccg	2100
tatgtggaat	tgggatatgg	aatcgggtact	cacatctttg	atlttggcgt	ttttgtaggt	2160
agtgagaact	ggaagtatac	cgaggtcggc	tgcaagttta	cgttcgagct	gtttaaccgc	2220
taa						2223

&lt;210&gt; 3292

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3292

aatataaata	ggagtatgga	aacagaaaga	attaaatgcc	ttattatagg	ttcaggacca	60
gccggctata	cagccgctat	ctatgctgga	cgtgcaaatt	tgtcaccggg	gctttacgaa	120
ggaatacagc	cgggtggaca	gttgactacc	actaccgatg	tagaaaactt	ccggggctat	180
ccgcaaggaa	tcagcggacc	acaattgatg	gaagatcttc	gtacacaggc	cgaacgtttt	240
ggtgctgaca	tccgcttttg	gattgctacc	gcttctgatc	ttggtcaggc	tccttacaaa	300
attacaatcg	atggtgaaaa	agtaatcgaa	gccgattcat	tgattatcgc	caccggagct	360
acagccaaat	atlttaggact	ggacgatgaa	aagaagtatg	ccggtatggg	ggtaagcgct	420
tgtgctactt	gcgacggttt	tttctatcgt	aagaaagtgg	ttgctgtggt	aggtggtggt	480
gacactgctt	gtgaagaagc	gatctatttg	gccggactcg	cttccaagggt	ttatctgggt	540
gtgcgcgaagc	cttatcttcg	tgcttcgaaa	attatgcagg	agcgtgtgag	gaaacatgat	600
aagattgaag	tactttttga	gcataatgta	gttggctctt	tcggtgagaa	cgggtgtagaa	660
ggtatgaatc	ttgtgaaacg	ttgggaggag	cccgatgaag	aacgctattc	attacctatc	720
gacggtttct	tccttgctat	cgggcataaa	ccgaattcgg	acatctttaa	accctatctg	780
gatactgatg	aagtgggata	tattaccacc	gacggtgaca	gtcctcgtac	caaggtagcc	840
ggagtatttg	ctgcaggatg	cgtagctgat	cgcattatc	gtcaggctat	tacagcagcc	900
ggaagcggat	gtaaagctgc	tattgaagct	gaacgctatc	tgtctgaaaa	gggattgatc	960
taa						963

&lt;210&gt; 3293

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3293

tgcaaaagta	gtaaaaaaaa	gaatttcatt	ggactaccca	caactttttc	ttacctttgc	60
gtttcaattc	aagcagatat	gaaaaaagag	agtcaagtaa	tatttgataa	gaatgtgata	120
gaattcggtta	cagtagccgc	cgaattctgc	gcttttttgg	aacgtgccga	aagtatgaaa	180
cgcagtacgt	ttgttgatac	cacccttaaa	atacttctt	tgctttatct	aaaagcatcc	240
atgcttccga	aatgcgaaat	gataggtgat	gaatcacctg	aaacgtatgt	aacggaagaa	300
atlttacgaag	tgtttcgcat	caacctggca	tcocatattg	cagaaaaaga	cgattatctg	360
gaagtatttc	tatccgcacat	ggcttacagt	gacgaaccga	tcaaaaagaa	tatttcggaa	420
gatctggccg	atatctatca	ggatatcaaa	gactttatct	tcgtattcca	gctgggattg	480
aacgagacga	tgaacgattc	cctcgccatc	tgccaagaaa	acttcggact	cttgtgggga	540

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caaaaactgg taaacacccat gcggtgccctg catgacgtaa aatatagtcc gaaagcccgg 600
ggagaagacg aagaggaaga agagtacgaa cccgaaaaca atgaagactg tcactgtgaa 660
gatgacgact gccattgtca cgatcatggc tgccattgcc atgatgatga ataa 714

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&lt;210&gt; 3294

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt;

(26), (149), (157), (163), (270), (274), (354), (376), (393), (406), (465), (512), (543), (544), (558), (584), (585), (629), (666), (667), (701), (703), (708), (716), (717), (726), (727), (729), (730), (732), (734), (741), (742), (743), (744), (745), (747), (748), (750), (751), (752), (756), (757), (759), (761), (762), (763), (765), (766), (767), (768), (769), (770), (771), (772), (773), (775), (776), (777), (778), (779), (780), (781), (782), (783), (784), (785), (786), (787), (788), (790), (791), (793), (794), (795), (796), (797), (798), (800), (801), (802), (803), (804), (806), (807), (808), (809), (810), (811), (812), (813)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3294

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ggggagagaa gggaaaaaaga agaganagga gaaagaaaga aaagaaaagg aggaggaaag 60
aagaagagaa aaagggaaag aaagaaaaaa agagagagag gaaagaaaaa agagagagaa 120
agaaaaagag aaaaggggga gaaaaagana aagaagnggg ggnagaggaa aggggaaagg 180
gggaaagaag aaggaggaaa ggaaagagga aaagagaaga aggaaaagga agggaaaggga 240
aaagaaaaga agagggaaaa aagggaaggn aagngaaaag gagaaaaaaa aaggaaaggg 300
agagaggaaa aaaagaaaaa gggggaaaaa aggaaaaaaa aagaaagaag aagngaaagg 360
aagaaaaggg aagaanggaa aaaaaggaga agngggaaga aggaanaaag ggagagaagg 420
ggagggagag ggaagagag gagggaagag aaaaagggaag aaggnggagg gataaggaga 480
aaaaggagag gaaaggaagg aaggaaggga anagaaaggg aagaaggaga aaaggagggg 540
aannggaaag aaaggaanga aaaggaagag aaaaggaaag gggnnaaaaa aaggagaaga 600
aaggggaaag gggaggaaaa aaaagaggna gaaaaagggg ggggaaggga aaaagaaaaa 660
gagggngnag aaggaagaga gaaagagaag gggggggagg ngnaggngga aggggngggg 720
gagggngngn gngngggggg nnnngngngn nnaagngng nngngnnnnn nnnannnnnn 780
nnnnnnnnntn ncnnnnnnnn nnnngnnnnn nnnccccc atgtcagcac tcctaaagtc 840
tatgttcccc gtacagagag tacagagaaa acgataacta accttaaaga taaaagtata 900
tgccataaa 909

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&lt;210&gt; 3295

&lt;211&gt; 531

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3295

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agagatgtcg gagatatctg gcacttcagt cggagctttg aaagcttctt accatcatgc 60
cgtgaaaaaa atcgagaagt ttttggaaga ggccaattaa accttttaat atgtacaatg 120
tctaagaaga agagaggaga agaacgtatg aaagaagaag ataacatatt gaagaaagtg 180
gggaagaaga attcctttta agtgcctgaa ggggtactttg aaaacttgac ttcagaggtc 240
atggggaaac tgccggaaaa agaaggtcct gcctttgaag aagtgaagca acccagcatg 300
tgatcagga tgaagccctt gctctatatg ggggctatgt ttataggggc tgcattgatc 360
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&lt;210&gt; 3296

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<210> 3297  
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 <213> B.fragilis

<220>  
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 <223> Identity of nucleotide sequences at the above locations are unknown.

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 gaagaaaagg gaaaggggag gaaaaaaaag aggnagaaaa aggggggggaa ggggaaaaag 180  
 aaaaagaggg nngagaagga agagagaaag agaagggggg ggaggngnag gnggaagggg 240  
 nnggggaggg nngnngnng gggggnnnnn gnnngnnaag nngnngnnng nnnnnnnnan 300  
 nnnnnnnnnn nnntnnnnnn nnnannnnng nnnnnnnnca ccccatgtc agcactccta 360  
 aagtctatgc ttcccgtaca gagagtacag agaaaacgat aa 402

<210> 3298  
 <211> 1296  
 <212> DNA  
 <213> B.fragilis

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 gatattgaga ttacattttt tattcccaag ccttgggggtg acgaagacca gagttttctg 180  
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 gcagatgcta tttattctat ctgtacctat ccggctatgt acgagtatct ccgtgatgaa 1200  
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1296

<210> 3299

<211> 2460

<212> DNA

<213> B.fragilis

<400> 3299

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<210> 3300

<211> 258

<212> DNA

<213> B.fragilis

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aaatatgaat	ttattagtcg	cataatcgga	ttttttttat	atttgccttc	aataaggaga	180

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<210> 3301

<211> 1950

<212> DNA

<213> B.fragilis

<400> 3301

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<210> 3302

<211> 2238

<212> DNA

<213> B.fragilis

<400> 3302

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&lt;210&gt; 3303

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3303

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gccggaaaaa	caactttgtt	ccgtttaatg	ctggacctgc	tgaaagctga	taccggtgaa	180
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&lt;211&gt; 1284

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3304

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&lt;210&gt; 3305

&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3305

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&lt;210&gt; 3306

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3306

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&lt;210&gt; 3307

&lt;211&gt; 795

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3307

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&lt;210&gt; 3308

&lt;211&gt; 651

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3308

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&lt;210&gt; 3309

&lt;211&gt; 2655

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3309

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&lt;210&gt; 3310

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3310

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&lt;210&gt; 3311

&lt;211&gt; 1581

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3311

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&lt;210&gt; 3312

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3312

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&lt;210&gt; 3313

&lt;211&gt; 657

<212> DNA  
<213> B.fragilis

<400> 3313

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<210> 3314  
<211> 864  
<212> DNA  
<213> B.fragilis

<400> 3314

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<210> 3315  
<211> 2517  
<212> DNA  
<213> B.fragilis

<400> 3315

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&lt;210&gt; 3316

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3316

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&lt;210&gt; 3317

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3317

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&lt;210&gt; 3318

&lt;211&gt; 867

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3318

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&lt;210&gt; 3319

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3319

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&lt;210&gt; 3320

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3320

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&lt;210&gt; 3321

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3321

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&lt;210&gt; 3322

&lt;211&gt; 876

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3322

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&lt;210&gt; 3323

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3323

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&lt;210&gt; 3324

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3324

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&lt;210&gt; 3325

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3325

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&lt;210&gt; 3326

&lt;211&gt; 1683

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3326

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&lt;210&gt; 3327

&lt;211&gt; 2907

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3327

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&lt;210&gt; 3328

&lt;211&gt; 531

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3328

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<210> 3331  
 <211> 753  
 <212> DNA  
 <213> B.fragilis

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<210> 3332  
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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3332

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&lt;210&gt; 3333

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3333

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&lt;210&gt; 3334

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3334

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&lt;210&gt; 3335

&lt;211&gt; 771

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3335

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&lt;210&gt; 3336

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3336

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&lt;210&gt; 3337

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3337

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<211> 618

<212> DNA

<213> B.fragilis

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ggcgataaga acatagttac ggcaaatggc accggttatc tggaattcac ccgtgagctg 540  
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<210> 3340

<211> 3381

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (2997), (3209)

<223> Identity of nucleotide sequences at the above locations are unknown.

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caaaaggtaa tgtctatcac tcttgccgaa gatgcccgac aactggatga ggtggtggtc 600  
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cctgaaatgg	gtggaggtgc	cggtatgaaa	taccgcacac	aacgtacata	taatgttggt	3360
attcaattaa	cttttaataa	a				3381

&lt;210&gt; 3341

&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3341

cagagattaa	aattgagcaa	aaaccgtatt	gatcaggaaa	agagagtagt	agagttgatg	60
atccgccttt	actgcogtaa	aaaagaaaag	aatgtcacgc	tttgcccccg	gtgcgaagag	120
ttgttgcaact	atgcacacgc	ccgcctggac	cactgtccct	tcggggagaa	aaagaaagca	180
tgcaagcagt	gcagcataca	ctgctacaaa	cccgcacatg	gggaacagat	gagacgggtg	240
atgcgctttt	ccggtccccg	gatgctgatt	tacgtctcct	gggaggcaat	caagcatctg	300
ttgggatag						309

&lt;210&gt; 3342

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3342

cacaaaataa	atctaaatat	aattattaaa	atgaataaaa	gtaacaaaga	aactaatctg	60
atcaagaagc	tattggcaga	tcaattggac	aagaaggaac	gcaagaaact	ctattattca	120
aatttaatat	aaaaacaaat	gagaaaacaa	tggaagaaa	ataagaatac	tccggtagaa	180
aatgagattg	gaaataagat	atgggacaag	atcgagaacc	aatgcataaa	agttcacaaa	240
agaatagttc	ctttagaact	tatccaataa				270

&lt;210&gt; 3343

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3343

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tgttatgccg	acggacattt	caccgtggaa	tgacgatgg	acgaaatgat	taaccaatgc	180
gcacagtctg	tagacgaatt	caataaaggc	tccgaagtga	aaatgacgaa	ggaagaggcc	240
attgcaaaca	tgaagcaatt	cttcccaatg	ctgaaaaggt	ggaaacagtg	a	291

&lt;210&gt; 3344

&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3344

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acaccggcac	ggaagacgaa	agcgaaaaag	aaaactaccc	gcaccatgcc	cgtttggtatg	120
cgcaataccc	ttgcgcttat	tgtggtcgga	gtattttctc	tcactttcta	ttatttcgtt	180
atccgtccct	attcttatcg	ttggaaggag	tgctacggac	ggaaggagta	tggtgtttgt	240
atcccttctg	gctatgaggt	gcatggcacc	gatatctccc	attatcaggg	gaacatcgac	300
tggaaggagt	tgaacaaaa	cagagaaacg	gattttccgc	ttcactttat	ttttatgaaa	360
gccaccgagg	gaggagatca	tggtgacgat	actttcaaag	acaacttcga	acaagcacgt	420
cgctatggct	ttattcgtgg	ggcctaccat	ttcttcactc	cacgtacgga	tgcccttgaag	480
caggcggact	tttttatccg	taccgtgaaa	ctcgatagtg	gagatttgcc	tccggtgctc	540
gatgtcgaac	tgacaggtaa	gaggcctaaa	aaagagttgc	aacaaaatat	taagaaatgg	600
ctcgaccggg	tgagggcaca	ttatggtgta	aaacctattc	tctacacttc	ttataaattc	660
aagaccgcgt	atctggacga	ctcgcttttc	aatgcttatt	cctactggat	agcccactat	720
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agtgtgcccg	gtattcatca	cgatgtagat	ctgaacgtat	tcaacgggtc	gctcgaagag	840
ctgaggaaga	tgacgatgag	atga				864

&lt;210&gt; 3345

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3345

tatacaatga	aatcattaaa	cgaaagagca	gcagatttgc	tgcaagggtg	tgaaacggta	60
atactcagtt	cggtcaatca	agagggatat	ccccgtcctg	tccctttgag	taagattgct	120
tccgaaggta	tttctgagat	ttggtggcga	accgggggaa	attctgtgaa	aacgaaagat	180
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accggtgaaa	tagaggtagt	gacagatgcc	ggactcaaac	agaagtattg	gcaagactgg	300
tttatcgccc	atttcccaaa	gggaccgact	gatccggaat	acgttttact	gaagttccgt	360
tctgagcatg	ccacgttctg	gatcgacgga	caattcgtcc	atcggaacat	ttaa	414

&lt;210&gt; 3346

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3346

agagaaatga	agatgaaaaa	aatattgctt	ggcctgtgtg	tgatactggg	cctgataaat	60
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ctgtcggctg	aagccaaagc	cggtgctatc	aaattgaaat	ggaccgtacc	agccgattct	180
aatattattt	atgtaaaagt	gacctataca	ttacctgaag	acgggaagaa	atgtatgaga	240
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atggcacagg	cacttcctgc	tctgaaacag	atcaagactg	accggaatcc	tataaccttg	420
tctgcaaaac	agttgtatag	agatgatcag	gagagttagt	aaggacctat	cgcaaacctg	480
gtggatggaa	ggaatgacac	ttatctccac	atgtcatgga	gcagtcctac	gcctttccct	540
cactatattg	tggctgactt	gggtgaagag	aatgctttgt	ccactttcct	gttctcttat	600
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ttgcctaata	caaaagctgc	gtcttacgaa	tccgatataa	taaaagccgg	tgcatcttac	780
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gaactcggcc	tttcgaaggt	aattgtgaaa	acctatgata	cggaaaccgg	agaaactacc	900
attgagtaa						909

&lt;210&gt; 3347

&lt;211&gt; 1083

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3347

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atatgggcac	ggggagaaga	atattacgaa	tgtgatgctg	taaaagatct	ggaagaaaca	120
gaaccgggag	aatggatagc	cactgtagag	gggacggaag	attatgaagt	ggaaatctca	180
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tataataaac	aattgataga	ggaaaggaaa	tcaagctggg	agctttataa	gcttattgaa	1020
aagaaaatta	atatatcctt	aattccgcaa	cactataatt	taactttatt	tataagttcc	1080
tga						1083

&lt;210&gt; 3348

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3348

aaaatggaag	aatatgaagt	aattcacccg	cggagcggga	atcgttttga	attggagaag	60
aatggaatga	ctgcctttgt	ggaatatgaa	gtcgaagatg	gagcactgga	tattatgcac	120
actatcgtac	ctcctccctt	ggaaggaaag	ggaattgcgg	ccgcactggt	agaagcgact	180
tataaatatg	cctctgcgca	ggggttgaag	cccaaagcaa	cgtgttcgta	tgccgtcgca	240
tggctgaaac	ggcatccggc	ggaataa				267

&lt;210&gt; 3349

&lt;211&gt; 222

&lt;212&gt; DNA

<213> B.fragilis

<400> 3349

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atgggtgcggg	tagtttttctt	tttcgctttc	gtcttccgtg	ccgggtgtacg	acgaccggaa	120
gcgggtttgc	cggaggtaga	agtgtttcgt	gaagacttca	ttgattttta	ttcttattta	180
gagtttgatt	caccacagat	tacacggatt	ttcacagatt	aa		222

<210> 3350

<211> 705

<212> DNA

<213> B.fragilis

<400> 3350

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aaagtgggct	ccggcaagac	cagcctgctc	aaaaccctct	atggcgagct	cgatgtgact	180
gccggtgagg	ccgaagtgtc	cggttatcgg	atgacatcca	tcaagcgcaa	gcacattccg	240
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cacaacctcc	agttggtagc	cgaatatccc	ggacagggat	accggtgcgc	cgaacatcgc	660
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<210> 3351

<211> 210

<212> DNA

<213> B.fragilis

<400> 3351

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cgccgaacaa	gctcggcaaa	agttttgcga	ccttcgtggc	tggccgtaat	gtcgagaaaa	180
accaactcat	ctgccccctg	ctcgcataaa				210

<210> 3352

<211> 387

<212> DNA

<213> B.fragilis

<400> 3352

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aacagtctga	taaacggcaa	aatgataggg	cgcgtacttg	ggatcttact	ctttatagag	180
gcgggaatgt	ttgtactctg	ctccggcata	tccgtggttt	atggtgaaag	cgattacaag	240
tattttcctt	atacggcggg	tatcaacctc	ctgtccggtg	cgttactggg	gttttatgga	300
cgtgggtgcg	aaaatcgggt	gagccggcgt	gacggttact	gcattgagac	actctcgtgg	360
gtgtttttca	cgctattcgg	tatgtag				387

<210> 3353

<211> 774

<212> DNA

<213> B.fragilis

<400> 3353

aatggactt	gtgagatagc	tacatatcca	tcaagcatat	gggacaacat	gaaaaaagga	60
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ttcaccatac	ttctattttt	attctcgcgtg	gcagaagtat	atgcacaaac	ggaattcacg	120
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gataaatcga	accggagtta	ttcatatctg	actcgttttt	tggcagaaaa	aggatattat	300
gtgataagta	tccaacacga	attgtccgat	gatcctcttc	tggctatgga	aggaaatttt	360
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ttgagagggt	gcgattatga	tgctgatccg	gatgtagtcc	caaccagcga	ggagcaaaaag	660
aaatttcgaa	tagaagttgt	gcgactggat	ggagttacac	acagtaacat	gggagaaaaac	720
ggatcggcag	aacaacacga	tcttattaac	cgacatatat	atattcttaa	ataa	774

&lt;210&gt; 3354

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3354

tccattccac	gaataggctg	ggccacaaga	tccaatccc	ggtcccacat	taccgatact	60
ggagatcacc	gtaccgatgg	actcggaaaa	gccgacacc	aagaacagga	gaactgcccc	120
accaagaatg	acgatgataa	gataaaaaagc	aaaaaacata	cccacagtag	acacaatcga	180
aggtga						186

&lt;210&gt; 3355

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3355

gttaagctta	gagcattgat	actaagatac	aaagaatctg	tgttaatccg	tgtaatccgt	60
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ggatgccgtt	tcagccatgc	gacggcatac	gaacacgttg	ctttgggctt	caacccttgc	180
gcagagggcat	atttataa					198

&lt;210&gt; 3356

&lt;211&gt; 825

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3356

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&lt;210&gt; 3357

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3357

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caggcatttc	tttaa					735

&lt;210&gt; 3358

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3358

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tga						183

&lt;210&gt; 3359

&lt;211&gt; 1920

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3359

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&lt;210&gt; 3360

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3360

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&lt;210&gt; 3361

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3361

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ggttcgtag	gtgcgtgggc	agggatgtat	acgtttcggc	ataagacacg	gcatcttaaa	240
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ttgtcagaat	ttacttag					318

&lt;210&gt; 3362

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3362

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cacttaaatcg	aattgttagt	actggccagt	aaaaccaagg	atgtatcttt	tgtgatcagg	120
caaaaagagg	aaacacagg	aaatacgggt	gaaatatatt	ccatcacttt	actaaaagat	180
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tattga						246

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 <212> DNA  
 <213> B.fragilis

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 cggtatattag gaaccatacg ggattggctg gaacaaaaat tatccattta tgaagaaacg 240  
 aatcaaacag taaacatcat agacttatgc cagcaactgt ttatcagtgg aaatggtgat 300  
 ataacctatt atcataaatt gaagaaatta atcgctacga atgaatggaa aaagtttcta 360  
 tccggattga tgaaacaaat aacattctcc ggacatggct atagcgggca atgtaataaa 420  
 atggatatct atgtggaaga aaaggactat gaaaaccttt taaaaatgtt gtcggatcat 480  
 cacagtcttc tggatatgct gatgcactat tcccaccatt tagataacaa ttattctact 540  
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<210> 3364  
 <211> 621  
 <212> DNA  
 <213> B.fragilis

<400> 3364  
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 gactcatgga cgaaacactg a 621

<210> 3365  
 <211> 1224  
 <212> DNA  
 <213> B.fragilis

<400> 3365  
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&lt;210&gt; 3366

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3366

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aaaatcatcc	aatcgatcga	ttcttaa				207

&lt;210&gt; 3367

&lt;211&gt; 600

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3367

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&lt;210&gt; 3368

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3368

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&lt;210&gt; 3369

&lt;211&gt; 1134

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3369

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&lt;210&gt; 3370

&lt;211&gt; 1341

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3370

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 <213> B.fragilis

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 <213> B.fragilis

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&lt;210&gt; 3374

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3374

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&lt;210&gt; 3375

&lt;211&gt; 1719

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3375

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&lt;210&gt; 3376

&lt;211&gt; 3729

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3376

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aggaataa						3729

&lt;210&gt; 3377

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (178)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

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&lt;210&gt; 3378

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3378

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&lt;210&gt; 3379

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3379

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&lt;210&gt; 3380

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3380

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&lt;210&gt; 3381

&lt;211&gt; 1782

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3381

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acgctctgcc	ctatctgcaa	gaagggaatc	atcaaaagag	tattaactgc	cgatgaggtc	1680
gactgggtga	ataattacca	ccagcaggta	tacgaaaagc	tgtctcccaa	gctgaacgaa	1740
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<210> 3382  
 <211> 1200  
 <212> DNA  
 <213> B.fragilis

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 ttggcaaaga aaggctcttc tgaacttcgt tctttcgatt ctatcgataa tgctcctgaa 180  
 gaaaaagaaa gaggtattac tatcaatact tcacacgttg agtatgaaac tgctaaccgt 240  
 cactacgcac acgttgactg tccgggtcac gctgactacg taaagaacat ggttactggg 300  
 gctgctcaga tggacgggtg tatcattgta gttgctgcta ctgatgggcc gatgcctcag 360  
 actcgtgagc acatcctttt ggctcgtcag gtaaacgttc cgaagctggg tgtattcatg 420  
 aacaagtgcg atatggttga agatgctgag atggttgagc ttgttgaaat ggaaatgaga 480  
 gaattgcttt cattctatga tttcgacggg gacaatactc cgatcattca gggttctgct 540  
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 gttgatactt ggattccact gcctccgcgc gatgttgata aacctttctt gatgccggta 660  
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 gttatccatg taggtgatga aatcgaaatc ctccggtttg gtgaagataa gaaatcagtt 780  
 gtaacagggtg ttgaaatggt ccgcaaacct ctggatcagg gtgaagctgg tgacaacgta 840  
 ggtctgttgc ttcgtgggtg tgacaagaac gaaatcaaac gtggtatggg tctttgtaaa 900  
 ccgggtcaga ttaaaccctc ctctaaattc aaagcagagg tttatatcct gaagaaagaa 960  
 gaaggtgggc gtcacactcc attccataac aaatatcgct ctcagttcta tctgcgtact 1020  
 atggactgta cagggtgaaat cactcttccg gaaggaaactg aaatggtaat gccgggtgat 1080  
 aacgtaacta tcaactgtaga gttgatctat ccggttgcac tgaacatcgg tcttcgtttc 1140  
 gctatccgcg aagggtggacg tacagtaggt gctggtcaga ttactgaaat tatcgactaa 1200

<210> 3383  
 <211> 456  
 <212> DNA  
 <213> B.fragilis

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 gagttttgca agcaattcaa cgccagaacc caagacaaaag caggtaagat tttacctgtt 180  
 atcattactt actacgcaga taagtctttc gattttgtaa tcaagactcc tcccgttgcc 240  
 attcagttgc ttgaagtggc taaggttaaag agtggttctg ctgagcctaa ccgtaagaaa 300  
 gttgccgaga ttacttgga acaggttcgt acgattgctc aggacaaaat gggttgacttg 360  
 aactgtttta ctgtggaagc tgccatgaga atggttgacg gtacagctag aagtatgggt 420  
 atcgtgttaa aaggggagtt cccggttaat aattaa 456

<210> 3384  
 <211> 288  
 <212> DNA  
 <213> B.fragilis

<400> 3384  
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 ccgaggattt cgatttcctc acctacatgg ataacaccag tttcgatacg acctgtagct 120  
 acagtaccac gacctgtgat agagaacacg tcttctaccg gcatcaagaa aggtttatca 180  
 acatcgcgcg gaggcagtgg aatccaagta tcaacagctt ccatcagttc cattactttg 240  
 tcttccatt tttctacgcc gttcaatgca ccaagagcag aacctga 288

<210> 3385  
 <211> 345  
 <212> DNA  
 <213> B.fragilis



<400> 3385  
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tcgagcctct cctcccgtgc taatatattat gaaatgaaaa aagtagtagc ttatatataa 180  
gaatcttacg acgaacttgt tcataaaagtg tcgtggccta cgtattcaga actaactaac 240  
agtgcggtag ttgtttttata tgcttccctg cttatcgcac tggtagtggt cgcgatggac 300  
ttctgtttcc agaattttat ggaaaaaata atttatccac attaa 345

<210> 3386  
<211> 231  
<212> DNA  
<213> B.fragilis

<400> 3386  
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aaggtttcat tcaactgcaga gcagattcgc gacaacgcga agaattcat ctctacattg 120  
aataagttga aaccgactgc agccaagggg acatatatta agagtattta tctttctagt 180  
acaatgagtg cgggtatcaa aattgacccg aaatcagtag aggaaatcta a 231

<210> 3387  
<211> 1233  
<212> DNA  
<213> B.fragilis

<400> 3387  
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cttcttcgcc aacaggtaga gaaagacgag cgttacattt ggtttcacgc cgcttctctg 180  
ggggagtgtg agcagggacg tcctttaatt gagagtatac gggagcgata tcccgattat 240  
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gcagatattg tttgctattt gccgtttgat aaacctcgta atgtgaagaa gtttctggat 360  
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tttgtgcaga atgaggcttc aaagcgtttt cttgccaga tcggtatcac aagggtaacg 600  
gtagtgggag ataccgcgtt cgaccgcgtc ctgcagattc gggagcaggc aaaagagttg 660  
ccgttggtgg agcagtttaa aaacggtgca tttacttttg tggcaggaag ttcattgggg 720  
ccggacgaag atcttttcat cgaatatatt aatagtcacc ctgagatgaa gttgattata 780  
gctcctcacg taatcgatga taatcatctg gtatagatta taggtaaatt gaaacgtcct 840  
tctgtacgct ataccgcgtc agatgaaaag aatgtccgga aggcggactg cttgataatc 900  
gattgtttcg gtttgccttc ttcgatctat cgttatgggg aaattgctta tatcggtggt 960  
ggttttggag tcgggattca caatacgtt gaagcggctg tatatggcat tccggtaatt 1020  
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tattccatta aggattacaa tgaactgaaa atattgctcg acagactttt aaccgatgaa 1140  
gcattcctga agaagaccgg cacgaatgcc ggtaattatg tcattggtaa ttccggagca 1200  
acggagaaaag tactgcatat gataaacttt taa 1233

<210> 3388  
<211> 927  
<212> DNA  
<213> B.fragilis

<400> 3388 ;  
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gaggatattt cgcagttgct ggagtttgct caggaaagga tggagaagtt tgatccggcg 180  
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aaagtaacgg	gaaagaggaa	taagcaacgt	ttgatacctt	ttggcgatga	gttgaaagag	600
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tataaacaag	ctcaccacag	agcctaa				927

&lt;210&gt; 3389

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3389

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aatagtga	aaaagaaact	gaaggtcatg	gtaaagatat	tcgggcgcaa	gacgccgctt	540
gaattaggct	ttatgcaagt	ggaaaaggaa	taa			573

&lt;210&gt; 3390

&lt;211&gt; 543

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3390

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gcagggaaag	catactcact	gaaagaagct	gcattcttgg	ttaaaggaaat	cacttttact	120
aagtttgatg	cttcattaga	tattgatgta	cgttttaggtg	ttgatccacg	taaagcaaac	180
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atgccatcta	tcattgggtaa	aattgggtgca	ctcggtcgtg	tactcgggtcc	tcgtggattg	420
atgccgaacc	cgaagagtgg	taccgtaact	atggatgttg	ctaaagctgt	aagagaagta	480
aaacaaggca	agatgggtcta	tcagagtgc	tcaaagcggt	attgttcata	cttcaattgg	540
taa						543

&lt;210&gt; 3391

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3391

ataaagaaag	tatgtgtaat	tttgccggcg	aatttgactg	cggaaatttt	aaaccataac	60
atatttaata	ataacaaaat	gattgtagta	cctgtaaaag	aaggcgaaaa	cattgaaaaa	120
gcgctgaaga	agtttaagag	aaaatttgaa	aaaactggca	tcgttaaaga	gttgagaagc	180
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gtgcaaaaac	ttcagcaagt	agaagattaa				270

&lt;210&gt; 3392

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 <212> DNA  
 <213> B.fragilis

<400> 3392  
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 aaagaagaat atggtattga acctgctgct gcagctgtag ctgttgctgc tggctcctgca 180  
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 gcagctaaac ttcaggttgt taaggccgtt aaagaagctt gtggtccttg cttgaaagaa 300  
 gctaaggaca tggtagacgg tgctcctagt gtagtaaaag aagggtttggc taaagacgaa 360  
 gcagaatcat tgaagaaaac attggaagaa gctggagctg aagttgaact taaataa 417

<210> 3393  
 <211> 2871  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (2274)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 accccacctg agaagcgtaa aaaagaggga ttgtataaag tatttgccga aaacttccca 180  
 attgccgaca caagaaacaa ttttgttctt gagtttctgg actattatat tgatccgccg 240  
 cgctatacca ttgatgattg tatagagcgt ggggtcacat atagtgttcc attgaaagcg 300  
 aaactcaagc tttactgtac agaccccgat catgaggatt tgcatacagt gattcaagat 360  
 gtgttccctg gtccataacc ttacatgact gacaaggcaa cttttgtcat caatggtgct 420  
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 cctgttacta cgctgttaag agctatcggc tttgagaacg acaaggacat tcttgagatt 660  
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 gaaaaggagg ctgtgcttta tatctaccgt cagttgcgta atgcagacct tgccgatgat 1020  
 gccagtgccc gtgaagtta ttaataacctg ttcttctctg aaaaacggta tgaccttggt 1080  
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&lt;210&gt; 3394

&lt;211&gt; 1788

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3394

aagatgaaaa	ctataaataa	attattcaag	ggatatttct	tttgactttt	agttagtgtg	60
agtgttagta	gttgcgactt	ggaagtggag	cgcctgcta	atattgcggc	cgaacatat	120
tggacatctg	aaaaagatgc	ctgggtataat	ctgaattcaa	tttattctgc	tgcgattccg	180
ggatttggaa	tttacggaga	tgcttattcg	gatgatgtat	attgccaaata	tgcacatgaa	240
tctaacgcaa	aaatattcca	gcaagatggt	tttagccctc	tttatgatga	aggttggaac	300
tttgagacaa	ttcgttaagga	aaacttgttt	ttgcagaaag	ttggaaattg	tgagatggat	360
gaatctttta	gagaaaaggt	caaggcagaa	gttcgtgcaa	tgcgtgcctg	gacttatttg	420
ggcatgacta	tgacgttcgg	taaagtgcct	ttgattactg	aagtactgga	ttataactct	480
cctaataattc	cgcgtgacga	ggtaagtgtg	attcgtgatt	ttattatgaa	agaacttact	540
gaggctgctg	caatattgcc	cgagaaatac	gctgggtggt	atccaaatga	aaagggacgt	600
atcacaaaat	atgcttggtt	gtcattgaaa	gcaagagcgg	ccctgtatct	tggggactat	660
gcttttagcag	aatctactgc	gaaggaagtg	atggataagg	gaggcttctc	tttgtttaaa	720
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tttgcagaaa	aaggaatcga	taaagacgaa	ttcgtaagg	gtatgtttaa	ttatgaagct	840
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gctgcttcca	gttgggatta	tcaagatatg	actcgttata	caagtatgcg	cccgaatcag	960
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aaccgtgata	gccgtatgta	tgtttctatc	ttgatgccat	tcaagagttg	gtatgaatct	1260
aattatggtg	ataagtttgt	gtatgaatgg	ataaagaatg	gtaataacga	atcaaagacc	1320
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accggtgatt	atccttgat	ccgttatgct	gaaattttat	tgatttatgc	tgaagcgcac	1440
acacagacta	ctgggtatga	tgctgcaact	gaagctgctt	tgaatcagtt	acgtgatcgt	1500
tgcggtatgc	cggatgttcc	ttctggcttg	agcaaagaag	aaggctctgaa	actgattcag	1560
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agcgatgatt	actggaaaga	gcacatgaac	aatgtaccta	tcatgactcc	tgacggtgat	1680
acggaactta	caatgaaatg	gagctctcgt	atgctctgta	aaccaattcc	gcaaacagct	1740
attgacttaa	atccggttatt	ggctggtgat	cagaatccgg	gatattaa		1788

&lt;210&gt; 3395

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3395

agggtgaaaa	aggggggtggc	ggtaaacccg	atagccataa	aagcccaagt	gctgaccggc	60
gggcgggggaa	aagccggcgg	agtaaaagttg	gccaataatg	atagagatgt	ctaccaatac	120

gctcaaacta	ttttggagat	gactataaaa	ggttatcccg	tcaccaaaaa	ttttcttaat	180
gaggctggca	acattggcag	ccgaatatta	catcaatttt	acgatagacc	gtaa	234

&lt;210&gt; 3396

&lt;211&gt; 2007

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3396

cggggggacta	gaatagactg	cttaagatac	tctctgcccc	gcggtgaaga	cagcacttcc	60
gataatgata	aaggaggagt	tgtttataca	cacttggtga	caattccgtc	aacttatggt	120
gctcgtcaaa	gtaatggtga	atggggtagc	tatgaagggtg	gaaagccggc	tgcaacagta	180
aatatggagc	gtaacccttt	acgccgtttg	gaagaaggag	gatggtcgaa	cagtaagact	240
cagaatactt	tgataaatct	ggcttttagat	attaaacctg	taaaaggact	ggtattgaca	300
ggcgaaatga	tttataaagc	ttgggattat	aatctaaga	cttatactgc	aaataaaaagt	360
aagattaagg	atttccagac	cggtactgag	ttgaatggta	cagatgtaac	taattctaag	420
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tggagtaatg	aaaaacataa	tgtgaatgta	ttggctgggtg	tatcttatga	acattataag	540
tatcagaaac	aaaaatcata	tgcgtctgaa	ttcccgacta	atgggtatgac	ggacatgaat	600
ggtggctcga	gtgcgccaga	tgatacttat	gctgaagggtg	gaagtaacga	agacaaactg	660
atgtcttact	ttggctcgtgt	aaattactcc	tttatggatc	gttatttatt	agaggccaat	720
atccgtgctg	atgcttcttt	tgcgtttcat	aaggataatc	gttgggggtgt	tttcccgta	780
ttctctgcag	gctggcgtat	tagtcaggag	ggatttatgc	aagatatcaa	ctggattaat	840
aacctgaagt	tgcgtgcatac	ttggggacag	ttgggtaata	tcaatgacgt	aggccaatat	900
gattatttct	cttcataatca	acaaggagggt	aactacaact	ttgaagatgc	tattgtttcg	960
ggtatcgtag	aatctaaacc	tgccaatccg	actttaggat	gggaaactgt	tactatcact	1020
gatatacgtg	tggattttga	cattttcaat	ggactggtga	attttacagc	cgattattat	1080
aacaaaaaaa	cagatgatat	cttgtttggca	tatccgagtc	cgaaagaaat	cggtattggc	1140
tctgatttca	aggtttcaca	aaatatgtgt	acagtaagta	ataagggttt	agaactgagt	1200
attacacata	ataaaactct	gggtgacttt	gcatatacag	ttgggtttta	catgagtaag	1260
aactggaata	aagtaaccaa	cctgggagcg	aatgaccoga	ttattgaaag	cccatggatt	1320
aaaaagggtg	gttatgcaat	cggtactttc	tatggatatac	gctctgatgg	tctgttgact	1380
caggaggata	ttgataccgg	taattacatc	accgatgggt	tgggtgcctca	agcgggtgat	1440
atcaaatatg	tagattttaga	tgggtgatgg	aaacttaccc	ataaagatag	aacttatata	1500
ggttgtgatg	ttcctgacat	tacttatggg	gtgaacctga	atcttcgcta	taaaggattt	1560
gaattaagta	tgttcgggtca	gggagttacc	ggtacaaagg	taaacttcag	tatggaaaat	1620
gcctgggcat	tctcggatta	tgcaagtcgg	cgtaaatatc	acttgaagag	atggacggta	1680
gataatccta	acccgaatgc	agcttatcct	cgcatttatc	ctcgtacaag	taaacattca	1740
acttataacc	aataatttct	tgattactgg	ttgcttaatg	ccgattatct	ccgcatacag	1800
aatataactt	ttggatatct	tttccaaaag	ccggtattac	agaagctgag	tctggaggca	1860
ttgaaactct	atgttgccgg	tgaaaatccg	tttactatct	gtgctgatca	ccgtatggaa	1920
gatttcgacc	ctgaaacggc	ttcaggacgc	ggcgtaata	ctcgtggtac	gtcttcgatt	1980
gcttttggtg	taaatctaac	attctaa				2007

&lt;210&gt; 3397

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3397

gttaaacata	atttgaagac	aatgaaaaag	agcattttta	ttgcagttct	gacagcgtcg	60
atagctactt	ccgctttttg	acaatggaaa	ccggcaggag	acaaaatcaa	gacaaagtgg	120
gctgagcagg	tgaatcctga	aaatgtattg	cccagagtac	cacgtccggt	gatggaacgg	180
ggagagtgga	agaacctgaa	tggtttgtgg	aattatgcca	tcaccgagaa	aggagctgct	240
ccttcagctt	acgaaggcca	gattctgggt	ccttttgcca	tagagtcag	cctttcgggt	300
gttggttaaga	aagtcggccc	cgacaaagaa	ctttgggtatc	agcgtacttt	cacagtaccc	360
gcttcctgga	aaggtaaaaa	agtgatgctg	aacttcgggtg	ctgtagactg	gaaagctgat	420
atttgggtca	atgacattaa	ggtgggacaa	cacaccggag	gatttactcc	tttttcactc	480
gatattacgg	ctgcttttgg	tactaaagga	gacaataaac	ttgttgtgaa	ggtatgggac	540

ccgacagatc	gcggaacctca	gcctcgtggc	aaacaggtaa	accgtccgga	aggcatctgg	600
tatacggctg	ttaccgggat	ctggcaaact	gtctggatgg	agcctgtggc	cgaacgtcat	660
attactaatg	ttcgtacgac	ttcggacatc	gaccgtaaga	aactcacagt	ggacgttact	720
accagtacca	gctgtccttc	ggaagtgtgc	gaagtaaagg	ttttcgatgg	taaacagctg	780
gttgctaccg	gaaaaggatt	gaacggccag	actattgaca	ttcagatgcc	tgctgatgct	840
aaactgtgga	gtcctgcttc	tccgactctt	tattctatgc	agattgccct	gttgagcaat	900
ggtaaagtga	ccgataaagt	agatagctat	acagctatgc	gcaaatactc	taccgcgctg	960
gacaaggacg	gaattgtacg	tttgcagctg	aacaatgaag	atgtgttcca	gtttcgggtc	1020
tctcgatcaa	agatgggtgg	ccgacggact	gtatacagct	tcgacagacg	aagggggggg	1080
tatgatattc	aaaaaaccaa	agacttcgga	tttaacatga	tccgtaaaca	cgtgaagggt	1140
gaaccggcac	gttggtattc	acactgtgat	aaactgggta	taatcgtatg	gcaggatttg	1200
cccaaatggg	aaccgtaa					1218

&lt;210&gt; 3398

&lt;211&gt; 2076

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (654)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3398

aaacacccaa	acatgaaaaa	gatgaaaagt	ctgaaaggag	gcttgccggg	aatcctat	60
acagccggat	tactggcagc	atcgtgtact	tccgatcaat	catcgtcggc	agtaaccatc	120
gtgaaccgcc	ccgactgtac	acaaaccaac	gtaaactatg	taggaaaccg	cttgccactg	180
aaaccgatga	atttcattaa	actgcccgtc	ggaagtattc	agcccgaagg	atggttgaag	240
aaatatctcg	aattacagaa	agacgggtctg	accggtcacc	tgaatgagat	cagtgcattg	300
ctggggcaaag	agaataatgc	ctgggtgacc	aaaggaggag	atcacggatg	ggaagaagtc	360
ccctattggc	tgaagggata	cggaaacctg	gcttatatat	taaaggatca	gaaaatgatt	420
gatgaagcta	aagtatggct	cgaaggagca	ttcgccagcc	aacagcccga	cggatacttt	480
ggtcccatca	acgagcggaa	cggaaaaaga	gaattgtggg	cacagatgat	tatgctctgg	540
tgtctgcaat	cctattatga	atattcaaat	gaccaacggg	taatcgacct	gatgaccaat	600
tactttaaat	ggcagttaag	tgtaccggac	gaacaattcc	tggaggacta	ttngnaaaac	660
agccgtggcg	gagataacct	gttaagcgta	tattggcttt	ataaccgcac	aggagatcaa	720
ttcttactgg	aactggctga	gaagatacac	cggaaacacag	cagactggac	ccgcccgtcg	780
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cgccgtactt	tccgacaagt	acggggcggt	atgttcgggt	ccgacgaaaa	tgcccgcgatg	960
ggttctatcg	acccacgtca	gggagtagag	acctgcggat	tggtagaaca	gatggcttcc	1020
gatgaattga	tgttttgtat	gacgggtgat	ccgctttggg	cagaacactg	cgaagaagtg	1080
gctttcaaca	gttatccggc	tgcctgtgat	ccggatttca	aaggattacg	ttacatcact	1140
tgccctaacc	agacgggtcag	cgactcaaag	aatcatcatc	cgggcatcga	caaccgggga	1200
cctttcctgg	caatgaaccc	gttcagcagc	cggtgtgtcc	agcataacca	cgcacaggga	1260
tggccttatt	atgccgagca	tctgattctg	gctactccgg	ataatggtgt	agcggccgcc	1320
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gagcagacga	attatccctt	cgaggaaacc	atccggttta	cggtaaatac	tccgaaagct	1440
gtaagtttcc	cgttctatct	gagaatccct	tcattggacag	aggttgcaac	tatctttggt	1500
aacggcaaaa	aagtagcggc	taaccccgaa	gccggacaat	atgcctgcat	caatcgcgaa	1560
tggaaagaca	atgaccaagt	ggagattcaa	ctgccgatgc	aactttcgat	gcgtacatgg	1620
caagtgaaca	aaaacagtgt	aagcgtagac	tacggtccgt	tgacaatgtc	actgaaaatt	1680
gacgaagatt	atgtgaaaaa	ggacagccgc	gctacggcta	tcggtgactc	taaatggcag	1740
gaaggcgctg	acgccagcca	atggccgaca	tacgagatct	atgcaaaaac	tccttggaac	1800
tacgatttgg	tactcggtaa	gaacgaacct	ttcaaagtag	ctatcgaggt	aaaagctatc	1860
tggccggctg	acaacttccc	gttcacggctc	gcaagtacac	ctatcgaggt	aaaagctatc	1920
ggacgcaagg	ttccttcatg	ggttatcgat	caatacgact	tgtgtagcga	acttctctgaa	1980
atggacgctc	cgaaggggga	aaaagaagaa	atcaccttga	ttccgatggg	agcagccaga	2040
ctgcggggtt	cggctttccc	gaacacaaga	gagtaa			2076

<210> 3399  
 <211> 1587  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (194), (1550)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3399

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cacgaacgat	caacgggtca	tccggtttat	gaccgactat	ttccgttatc	aactgaaaac	120
gttaccggaa	aagccgctcg	gcaactggac	tttttgggca	gagtttcctg	gccttgcaaa	180
aatatccagg	ccgnatactg	gctctataat	atcaccgggtg	attcattcct	actcgatctc	240
ggcaaactga	ttcatcaaca	aagtttcagc	ttttagata	tggtgaaccg	gggagacctg	300
aaacgtatca	atacgattca	ctgtgtcaac	ctggcacaag	gtatcaaaga	gcctgtcatc	360
tattatcagc	aagagcccga	caaatgtat	ctcgatgagg	ttaaatgtgc	ttttcgtgac	420
attcgccagt	tccacggaca	accgcagggt	atgtatggtg	gtgacgaggc	attgcatggc	480
aacaatccga	cccaagggtc	agaactctgc	tcagctgtgg	aactgatgta	ctcgctggaa	540
aaaatggtag	agatcacggg	agatatcgac	ttcgccgacc	atctggaaag	gattgcattc	600
aacgcactgc	ccaccagat	ttcagacgat	tttatgacaa	aacaatattt	ccaacaagcc	660
aaccaggtga	tggtatcacg	ccatcgctgc	aatttcgatc	aggatcacgg	aggaacggac	720
aactgtttcg	ggctgctgac	gggatattcct	tgttgctgat	cgaacatgca	ccaaggttgg	780
cctaaattca	cccaaagcct	ctggtatgcc	actcctgacg	gtggactggc	tgttacggca	840
tacgctccat	cggaaagtac	ggccaaagta	gcggatgggt	gtacggtaac	tttcagtga	900
gaaacctatt	atccgatgga	tgacaaaata	agtttcaccc	tccaatcgat	ggacaaaaaa	960
cggaaagaag	taaacttctc	tctccaatta	cgtatcccga	aatggtgtag	acaagccgga	1020
atatcagtca	acggacaact	tcttcaacat	gccgaaggag	gccgatggc	cattgtcaac	1080
cgcaactgga	aaaaaggggg	ccgggtggaa	ctccatctgc	cgatggaagt	cactgccagc	1140
acctggtatg	aaaattcggg	aaccattgaa	cgcggtccgt	tggtatttgc	cttgaagatg	1200
gaagaaaaat	gggagaagaa	agagtttgaa	gagccgtggg	atggtccgta	ttattactca	1260
gtgactccta	ccgaaccatg	gaactatgga	ttggttgatt	tcaatcgtaa	caaagcgaac	1320
gaacatgccc	gtgtaacgat	tcatacggaa	aagcaatctt	ccgtattccc	ctggaataag	1380
gaaaatgccc	cgatagaaat	acggatgaaa	gcaagattgg	taccttcatg	gaaactttac	1440
aacgaaatgg	cagggcctca	accttattct	ttctgtagcg	gaggcgaaag	ggccggaaac	1500
agaaatcacc	ctgaattctt	atggatgcac	tacattaaga	atacgggaatn	tccggtagtg	1560
ggagccttcc	gattgagagg	tgattaa				1587

<210> 3400  
 <211> 735  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (679)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3400

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ctgggcctct	gcttctcttc	cttgggaagc	gggctccggg	ccgatacccc	cgagaactat	120
accaacaacc	gctatccatt	ggtagcga	cctttgatgg	aactaccgtt	aggcagcatt	180
aaggcaaaa	gatggttaca	ggaaatgttg	gtaaggcaga	aaaacggggc	aaccggggca	240
atggacaaac	tgatccgct	ggtgatgggc	gaacgcaacg	gctggctcgg	cggcgacggt	300
gatcaatggg	aaagaggacc	atactggatt	gacggtttac	ttcctctggc	atatatcctg	360
gacgatgcgc	aactgaaagc	taaagtgcaa	ccttggatag	aatgggcttt	aaaaagtcag	420
cgggaagacg	gtttcttcgg	tccggccaaa	gactatcccc	gagaggccgg	catacaacgg	480

gataactctc	acgactgggtg	gccgcgtatg	gtgatgctga	aaatactcca	gcaatattat	540
tctgccacga	acgatcaacg	ggcatccgg	tttatgaccg	actatttccg	ttatcaactg	600
aaaacgttac	cggaaaagcc	gctcggcaac	tggacttttt	gggcagagtt	tcctggcctt	660
gcaaaaaatat	ccaggccgna	tactggctct	ataatatcac	cggtgattca	ttcctactcg	720
atctcggcaa	actga					735

&lt;210&gt; 3401

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (168)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3401

cctttgggcg	gaaaaaagtt	ttttcattgg	aatgggggt	ttaagtcctt	tttccccttc	60
catttcaagg	cagggaaaaa	ggaggacttg	tgtatgaata	ttaggttatt	attaatatgg	120
ttcggaatga	ttaatcacct	ctcaatcgga	aggctccac	taccgganat	tccgtattct	180
taa						183

&lt;210&gt; 3402

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3402

cagaaagcta	tgaaaacaaa	gatctacctg	ctatttatta	ctaccttatt	cttctgcgcc	60
ggttggtggca	acaagagcgg	cggacagaaa	caggagtcgg	taagtgcggc	aaaggataca	120
tatgtaaatc	ctttgtttcc	ggaagggggc	gatccgagtg	ctcttttcca	taatggtaag	180
tattattata	cccatggaac	ggaagataag	atcatgcttt	gggaaacgtc	cgatatcact	240
gatatggctc	atgcggtttg	caagatagtg	tgggaagcctc	acgatccatc	caacagttgt	300
catctatggg	caccggagat	tcaactatct	aatgataaat	ggtatatata	ttatgcagcc	360
gacggcgaca	atgcggataa	tcaccagttg	tacgtacttg	aaaactcttc	acccgacccg	420
atggagggaa	agttcgaaat	gaaaggaagt	atcataacca	atcccgaatg	gaattggggg	480
atacaggcca	ccactttcga	acataaggga	gtccgctatc	tggcctggtc	cggatggccc	540
aaaaggagaa	ccaatgccga	aactcaatgt	atctatattg	ccaggatgaa	agatccgtgg	600
acactcgatt	cacccgtgtg	cctgatattc	aaacccgagt	atgaatggga	acggcagtg	660
gtcaatccgg	atggcagccg	tacggcttac	cccatttatg	tgaatgaagg	gcctcagttc	720
ttccattcga	aagataataa	gacgttgatt	ctatattacg	ctgccagcgg	ttcgtgggtc	780
ccctattact	gtgtcgggat	gttgactgcc	gatgccgaga	gtgatttggt	agatccggct	840
tcctggacaa	agagttcggg	tcgggtatct	cagcaatcgt	tggagaatga	agtttatggt	900
ccgggtggac	tctcctttgt	tccttcgccc	gatgggactg	aatgggtatat	gattttaccat	960
gcccgtcagg	tgaccaatgg	agacaccggg	agtcctgaaa	cccgtaatcc	gcgaatacaa	1020
aaaataggat	gggatgccc	tggaatgcc	gatttgggga	ttccgggttcg	tgcagggggt	1080
gccttgccga	aaccttcggg	tactcttttg	aaataa			1116

&lt;210&gt; 3403

&lt;211&gt; 2223

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3403

tattatgaat	caatgaaatt	aaattctttt	cctcactatc	tccagttgga	tgctatggat	60
tgcggtcctt	cctgccttcg	catgattgcg	aagtattatg	gtaagagcta	ctccctgcaa	120
actctccgtg	cacgctcttt	tattaccogt	gaaggagttt	ccatgctggg	catcagcgat	180
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gatataaaga	agaaacgtag	cggtctaccgt	ttctatatcg	ccgaccccg	ccgtcagttg	360
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caacgtatag	gcgatcacgg	acgtatcgag	agttttctga	cggtgatcgc	catcagtagc	900
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tag						2223

&lt;210&gt; 3404

&lt;211&gt; 612

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3404

aaaaagaata	agatggatgc	acatatagaa	caaatagcaa	aatcgcttta	cttctcttgc	60
aaacaatttg	atatagggct	attttatgga	aagatgggac	gttgcccttt	cttttttgat	120
tattcacgtg	tactgaatt	gagggcggtt	gaggaaactg	ccggagaatt	gctggatgaa	180
gtgatggaga	gtgtctgctt	agggatgccg	gtcggctctg	ctttcggatg	gtgtgggtata	240
ggttgggggg	tggaatatct	ggcccggaag	ggatttgtgg	aagatgatga	taatgaaggg	300
cgcaataaga	ttgatgagaa	agtatggag	tatgatgtca	ggcgcttggg	cgattactct	360
ttagctacag	ggttggaagg	aatttcatgg	tatgtattgc	ttagactcta	ttcgggagat	420
aaagggtgtaa	ggatagggga	aaaaaactat	ctgtctgatt	tgaaaagtgc	ttgtgagaaa	480
gcttttaaaaa	aagggcggtg	tgaggggata	cttctgttac	tggattttct	gaatgggaaa	540
agggcaaatt	atcctttcgg	ggagtttttt	tcacaaaattc	cgggagaagc	gcattatatt	600
ccggatatgt	ga					612

&lt;210&gt; 3405

&lt;211&gt; 672

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3405

tatgtcatga	aagatattac	aatgctaaac	aaaccacat	tagacttctt	cggatgcaac	60
------------	------------	------------	-----------	------------	------------	----

ttttgtcttg	tagagaagca	tcgtatggct	tttgtcctta	tttcgaaatg	tggacttact	120
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actcattttt	atatcgccc	ggtaaaacca	gaacgttttt	tggtagccgt	ttctgagatg	240
tctggttatg	aaaggaggca	taaatcgat	ttgaaggtag	cgggttggag	ggatccggta	300
gaaaggctgg	tttctgctta	taaatatttt	atacttgaac	gtaccttcaa	tcaatacatg	360
tacatgtgta	atctgtatca	ggattgttct	tttgaacgct	ttctttcgtt	cgtagtattt	420
gaattgggga	aggcaaatcc	gttgtggcag	gatgaacata	tacgcaggca	atctgatttt	480
tatacttctg	ctgatgtgga	ctgtattgta	cctctcagca	agttgaaccg	ttttttagcc	540
gagaggggag	tggatatgcc	ggaagaaaag	gcaaatagcc	catctgtccg	gtttgaactg	600
aaggatgaaa	aacagatagc	aaagataaaa	gaactatata	gtcttgatta	tgaataacct	660
gttggttggt	aa					672

&lt;210&gt; 3406

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3406

ccgctgggta	agacattggc	tggcagagaa	tgccttgcag	gtgttatgtg	ctattgcacg	60
aagaccgcta	ctgataattg	ttcgggaaac	acactggcgg	tgcattgccg	tggacagggt	120
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acataatttt	caagagtgat	ggattgcagg	tgttatgtcc	ccatgggtata	caattattta	240
tataggaggg	attttattga	acagaatgga	tttcgctttg	aaccgggggt	ggttcattgaa	300
gatgaattat	ggactcctca	ggtgctgaca	accgctcaaa	aaataacggt	tgccgatatt	360
gattttttatt	attaccggca	acgggaaggga	tcgattatga	cggcgacggc	agcgggcagg	420
cggattgctt	ccattcaatt	gattattgag	aagttactgg	aatatagccg	taagcacttg	480
tttgagaaaa	aatatagaga	ggcaaaggaa	gcactctatg	taaggctgtt	gcagatatat	540
tctactgcct	gtacattgca	tcgggacgga	acttatacaa	ctttgtacga	tagggcgagg	600
gagatgcttc	gtgtttgtga	ggaactcagg	cggcaagagt	ctcttgggag	atgggtatagt	660
gaggaatcc	tcaacaggat	gaaactgtat	tatgaccggc	tccaaacgat	ggaaggatga	720

&lt;210&gt; 3407

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3407

gggtgctgta	gccgaagagg	gaaccaccg	ggaactgacg	gaaaagaaag	gattgtatta	60
tcagttgggtg	aagaatcagt	tggaaattagg	aagttagata	tggaaaagga	gcacacacat	120
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attcttcgca	gtggcattac	ggtgctgttt	gtcatagtgg	tggcattggt	tgccggaagc	240
tattggttta	aatatccgga	tgtgattgct	gcgagggtga	cggtaagcac	acaagatcct	300
ccggcttacg	tagtggcccg	agcagccgga	agactggaga	atctgtatgt	acaaaacggg	360
caggagggtgg	aacccgacac	gaatctgggg	acaatagaga	atacagcttg	tgcgtcggat	420
gtattctcct	tgcaagagcg	gatgcggaag	tggaaacagg	aaggatatac	gcctgagtcg	480
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gcctatgcgg	cgtttgtgag	tactctctcc	gaaatgggtgc	gtatgaatga	attgggggtat	600
tatgcaaaga	agttacagtc	gtcttaa				627

&lt;210&gt; 3408

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3408

agaccccagt	tggagagttt	tgagagtatc	accggaaaag	gtatcaaggt	ggtatatcag	60
ggtgacactt	attgggtggg	cagccacaaa	ttgctgaaag	atttcagtgc	ttctctttct	120
gacgtacttg	ccgagatgat	ggtgcaatac	gaatcggacg	ggaacagtat	cgtttacttt	180
ggccgtggaa	cagagggtact	tgccgttgct	gccattgccc	accagataaa	gccgaacttc	240

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gccgaggcgg tgaaggaact gaaacgtcag ggcacgcaca tttgcatgct gaccggtgac 300
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gccttgccgg atgataaaga agagttttgtg cgtgagctcc agatgcaggg caaaacggtt 420
gctatggtgg gtgacggaat caatgactca caggcggttg ctttggctga tgtcagcata 480
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gatctgctgt tgctgccccg tgcattcgaa ctctccaagc aaacagtaaa actgattcac 600
cagaatctgt tttgggcggtt tatctataat ctgataggca ttcccattgc agccggaatc 660
ttgttccctg tcaacggggtt gctgctcaat ccgatgcttg ccagtgcagc gatggcattt 720
tcaagtgtaa gtgtcgtgct gaattcactg agtctggcca gaaaataa 768

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<210> 3409

<211> 204

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222>

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<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3409

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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnntn nnnnnnnnnn 120
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nccccccnng gacctctgtg ttactctgtg 180
ccctctgtgg tgagttcgtt ttga 204

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<210> 3410

<211> 192

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222>

(1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22), (23), (24), (25), (26), (27), (28), (29), (30), (31), (32), (33), (34), (35), (36), (37), (38), (39), (40), (41), (42), (43), (44), (45), (46), (47), (48), (49), (50), (51), (52), (53), (54), (55), (56), (57), (58), (59), (60), (61), (62), (63), (64), (65), (66), (67), (68), (69), (70), (71), (72), (73), (74), (75), (76), (77), (78), (79), (80), (81), (82), (83), (84), (85), (86), (87), (88), (89), (90), (91), (92), (93), (94), (95), (96), (97), (98), (99), (100), (101), (102), (103), (104), (105), (106), (108), (109), (110), (111), (112), (113), (114), (115), (116), (117), (118), (119), (120), (121), (122), (123), (124), (125), (126), (127), (128), (129), (130), (131), (132), (133), (134), (135), (136), (137), (138), (139), (140), (141), (142), (143), (144), (145), (146), (147), (148), (149), (150), (151), (157), (158)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3410

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nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnntnnn nnnnnnnnnnn 120
nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn ncccccnngg acctctgtgt tactctgtgc 180
cctctgtgtg ga 192

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```

<210> 3411
<211> 186
<212> DNA
<213> B.fragilis

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<220>
<221> unsure
<222>
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,(19),(20),(21),(22),(23),(24),(25),(26),(27),(28),(29),(30),(31),(32),(33),(34)
,(35),(36),(37),(38),(39),(40),(41),(42),(48),(49)
<223> Identity of nucleotide sequences at the above locations are unknown.

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<400> 3411
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ttactctgtg ccctctgtgg tgagttcggt ttgaaaggaa ttgttatttt ctggccagac 120
tcagtgaatt cagcaccgaca cttacacttg aaaatgccat cgctgcactg gcaagcatcg 180
gattga 186

```

```

<210> 3412
<211> 2304
<212> DNA
<213> B.fragilis

```

```

<400> 3412
cttgtgtcac cctgtgcagt ctgcggtgaa tcctatctgt ttcttattga atataaaccg 60
aataaaaaaag acaaacgaag aaatttaatg aaatacatgt tattgaccgg actgcttctc 120
ggcagttctga ccgtacaggc gcaagtgagc ggtacgggtga aagatcaggc aggcgaaccg 180
attataggcg ccaacgtttt ctggaaaaaac atttccgggtg gggtagccac tcgtgaggac 240
ggtacttttt ccatatctaa acccgacaaa tccaatcatc tgatcgtaag ttttatagggt 300
tacgaaaacg acaccataca agtgaacgat aagaaagccg ttctggacgt ggtgctgcgc 360
gaaggaatgg aactgagtga agtgcagatt gtcagccgta agttgagtac gctgaagttg 420
tgcagcagtg tgatgaacga agagatcatt accagcgacg agctctgccg tgcggcatgt 480
cgcgaatctcg gtgaaagtgt tggtaccaat ccgtcggtag acgtcagcta ttcggatgct 540
gcaacggggag cgaaacagat caagttgctc gggctttccg gaacctatgt gcagatgctg 600
accgagaata tcccgaacta tcgtggtgct gcttctcctt atgggttggg ttatgtgccc 660
ggtccttgga tgcatagcac acagggtttca aagggaatct cgtcagtaaa aaacgggttac 720
gaggccctta cggggcagat caatgttgag tttaagaagc cacagttgcc tgaggccgat 780
tgggttttcgg ccaacctttt tgccagtact accaatcgtt atgaagcgaa tgcagacgcc 840
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aaggcacacg acggcaatga tgacggcttt gccgatattc cccgataga gcagtataac 960
ttctggaatc gctgggcata tatgggggat cattatgtgt ttcaggcagg catcaaggca 1020
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tatgaaatag acatcgacac ccggcgctac gaggccttta ccaagaatgc ctatatatatt 1140
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gcactttatg gacggaagat ctataacgtc gaccaatcca acgcctatgc ttactttatg 1260
ttcgaaaccg aatttacgaa agagcacaat ctatctgcag gcttcagcta taattatgac 1320
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cgtgcgcaca ttaagtacaa cccaatgac tttgttcatt tccgtctttc cgccggaaag 1560
gggtatcgca ccaaccatgt gcttgctgag aataattatc tgatggcaag cagccgcaag 1620
gtgagcatcg ccgatcatct cgatcaggaa gaggcttgga attatggagc aagcatatcg 1680
ggatatatcc cgcttttcgg gaagacgctg aacctgaacc tggaatacta ttacaccgac 1740

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ttcctgaaac	aggtcggtgt	cgatatggat	acgaatccgc	acgaggtggc	cttttacaat	1800
ctcgacggac	gctcgtactc	acaggtatatt	caggtggagg	ccacttatcc	cttctttcag	1860
ggattctcgc	tgactgccgc	atctcgctgg	acagacgcca	agactaccta	taatcatcaa	1920
ttgatggaga	agcccccgac	gggaaaatat	aaaggcctcg	tcactgcctc	ttatcagact	1980
ccgctgggtt	tgtggcagtt	tgatgccaca	tggcagatga	acggggggagg	acgtatgccc	2040
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aacctgacta	atttttaaaca	gaagaatccg	attatcgatg	ctgccgatcc	ttggggcgac	2220
cgttttgact	cgaccatgat	atggggggccg	gttcatggag	cgaaagggtta	tatcggagtc	2280
aggttcaatc	tggcgagaga	ttaa				2304

&lt;210&gt; 3413

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3413

ataatgaaga	caaatgaagt	tttagagacc	attaaggcac	ggcgtagtgt	acgtgcgtat	60
gatcgaaagc	agattccggc	ggatgacttg	aacgccatcc	tgggaagcggg	tgcttacgcg	120
ccgagcggca	tgcattatga	aacgtggcat	tttactgccg	tctgtaatac	agtgaaactg	180
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tccaatgaac	ccaagcaatg	gtgggcccgg	atggattgtg	cctgtgctat	cgagaatatg	360
tttctggcag	ccacttcact	gggcatcgct	tcctgttggg	tcaatcagct	cggtagcgac	420
tgtgatgac	cggaggtacg	ggcctatctg	acttctctcg	gagtgcccga	aaatcataaa	480
gtttatgggt	gcgtagcttt	gggatataaa	gcggaaggcg	cattgttgaa	agaaaagaca	540
gttaaagccg	gtacgataac	catcgtggaa	tag			573

&lt;210&gt; 3414

&lt;211&gt; 720

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3414

atagaatttg	caaagatgat	cagaagtaaa	atgaaaagca	cttggatggt	gggactgctg	60
ctcctcctgg	gaagctgtca	gcagaaaggg	ccggcaagtg	gccggggcgga	gatgaaagga	120
gagtcggata	gtttgagtgt	ccggcatggg	caagagaatg	cattgtcggg	ttcggatgaa	180
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aatccggagc	gtcttgacgt	gaaggctgca	ttgcggaatg	tccgtccgct	gaagttgagt	300
caattgggca	gtcagcttga	tttcatggta	tttaaagatg	tgaaaggagg	catcttcgcg	360
ctgataccga	ttgaagaggg	ctgtttggga	gtgggggattg	gtggcatctg	gctgctggat	420
gggaacctga	aaatgattcg	gatgttgttt	cgcaatgatg	tggatattac	ggaagaaaat	480
ggattttacca	actttcagac	gaagcgttac	atcaatccgg	attattatga	aaagtcttcc	540
cggacgttga	tcggcgtgct	gtatgatcag	agggataaaa	agaatcccaa	atcctttgtc	600
aggctttctc	tgaaagattt	gttaagcgca	tcccggcctc	tgacaccgga	cgatatccat	660
aaacgtgcag	ggtcttcacc	acggggctgg	aagaatgccg	catcgagtca	gttaaaaccc	720

&lt;210&gt; 3415

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3415

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&lt;210&gt; 3416

&lt;211&gt; 2016

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3416

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&lt;210&gt; 3417

&lt;211&gt; 2862

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3417

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&lt;210&gt; 3418

&lt;211&gt; 2214

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3418

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&lt;210&gt; 3419

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3419

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&lt;210&gt; 3420

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3420

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&lt;210&gt; 3421

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3421

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&lt;210&gt; 3422

&lt;211&gt; 438

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3422

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&lt;210&gt; 3423

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3423

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&lt;210&gt; 3424

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3424

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tgcctctcgt	acatgagtac	gcctccggaa	ctctacaaat	cgttgaaaaa	ttctccggag	540
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gcactgagcc	aaatgttgaa	agacagaaaa	tcactgaccg	gcacagaggt	gctgagaatg	840
aaaaaataa						849

&lt;210&gt; 3425

&lt;211&gt; 1404

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3425

cctcagaat	gctgggaatc	acccggacat	cgctatacag	gcggtatcgag	aaacacggat	60
tataacctca	aacagttaca	cgacatgaaa	caaaaatggg	cgaggaaacc	ccttatattg	120
acagcagccc	ttttgatctg	ctgttacacc	accgtgtggt	taggcattgca	cggtttctat	180
atcagcctgc	cggtatccgt	atgcctcttg	ctatacacag	cctacagaat	ctatcgctac	240
atcctccgct	ccacacgtgc	catggcacag	ttcatctggt	ctgtccgcta	ttccgagttc	300
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cattcgggtat	tagacagcca	ggaaaccgaa	gcctggcaga	aactgatccg	tgtactgaca	780
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catctgcacc	gcggcaccat	caccgtttca	tccgaaccgg	ggaaaggcag	tatcttcacc	1380
ctcttgtttc	cgggcgtatt	ctaa				1404

&lt;210&gt; 3426

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3426

caaagatgcc	ggctttcagc	ctgcatgatt	gtttgtagat	atttaataata	tcctcggtta	60
catcattcca	tgccaaaatc	tcgcacggaa	gatctacttg	tggaaagtca	aacttcatat	120

tactttcttt	ttttgaatca	cgcaaatata	cacattttct	tttatttttt	tatctttgtc	180
cttatgaaaa	caattacaac	cgattgggaa	cttattccat	attctgaggc	atggagccgc	240
cagacggaat	ggttcgatgc	ccttggtccat	gcgaagcaga	acggggagag	ttacgagaac	300
cgtataattt	tttgtgaaca	tccgcacgtt	tacacgctgg	ggcgtagcgg	gaaagaaaat	360
aatatgttgc	tgaggagagga	gcaactgaag	actatcggtg	ccactctcta	tcatatcgat	420
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tatgtgacaa	tgcacggatt	ggcattgaat	gtcaataaccg	atttacgtta	tttcagctac	720
atccatcctt	gtggtttcat	tgataagggg	gtgacctcgc	ttcagcaaga	acttggccgt	780
agcatcgata	tggcggaggt	gaaagaacgg	ttgggcgggg	agttgcttgc	tgaccttttg	840
tcaaaatga						849

&lt;210&gt; 3427

&lt;211&gt; 666

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3427

cgatttaaac	gatcaaacaa	catagtcatg	aaaattaaga	gatttgagtt	caatatgttt	60
cccgtaaaact	gctacgtttt	atgggacgaa	acgaacgagg	cagtcgtgat	agatccgggc	120
tgcttttatg	acgaagagaa	acaagcttta	aagaacttca	tcgtcaccaa	caatctgaac	180
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gcccccaaac	agagtcgcat	gttcggtttc	caactgaatg	aagcaccctg	cccactggga	360
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gtaccgggac	actctcccgg	aagccttgct	tattactgcc	gggctgacaa	ctgtatgttt	480
tcggggcgatg	tgctgtttca	gggaagcatc	ggacggggcg	acctggccgg	aggcaacttt	540
gatgaactga	aagaacatat	ctgcagccgc	ctgttcgtcc	tccccaacga	aacaatcgta	600
tatccggggc	acggagcacc	gactaccatc	ggaatagaga	aggcggaaaa	tccgttcttc	660
aggttaa						666

&lt;210&gt; 3428

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3428

gttttgttca	ggataatcat	tacaccgcct	acggtagcag	ccgaaacgat	ggttccgagg	60
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gtgataaaac	ctctgtccat	ggaaagtgcg	gtacagacca	caccacccat	taccaatgaa	180
gccaccatgc	ctgaagggcc	tttcaaccgc	acagccacca	taacgaccga	tgccagaatc	240
aatgtcatca	gagtcatgcc	cgatacggga	ttagtgccca	cgatagcgat	tgcatgtggc	300
gctaccggtg	tgaacaggaa	tgaaattccg	gccaccagca	ggatagctac	cagtgtatgc	360
accaggttgc	cttgcacac	atcgaaatag				390

&lt;210&gt; 3429

&lt;211&gt; 891

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3429

aaaaataaaa	gaaaatgtgt	atatattgcgt	gattcaaaaa	aagaaagtaa	tatgaagttt	60
gactttccac	aagtagatct	tccgtgcgag	atattggcat	ggaatgatgt	aaccgaggat	120
atattaaata	tctacaaaaca	atcatgcagg	ctgaaagccg	gcatctttgc	tatttgtacg	180
gaaggcaaga	tgaccgcaac	cattaatctg	attgactacg	agataaaacc	gaacgacttg	240
atcacactgt	taccgggtac	cattatccaa	ttccgcgaac	gcacggaaaa	agtacgttta	300
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agttccttct	ccaaaataac	cgaatgtccg	attgttagagt	tgcaggagga	tatagccagc	420
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ccctccgaaa	tgacagaggt	gtctttaaga	tcgatcctga	ctgccgtcgg	actaatctat	540
cagagatact	cctcgaaaaa	ccacaatacg	aaccgtaagg	aagaaatctg	ccgtgaactg	600
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atgactatcc	aggaaatcgc	ttattcactg	aacttcccca	gtgcttcgtt	ctttggaaaa	840
tatttcagga	gatatgtagg	catgagtcgg	ctggaattca	gaaacagctg	a	891

&lt;210&gt; 3430

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3430

tctaacttta	ttattaaaaat	acagatatat	tacaacctta	tgaatacaac	agaacaaact	60
tcctccctcc	cctctgccgg	aggggaaaaac	ggagtgaagc	ttcttcttaa	atactttccc	120
gacttgacgg	aagagcaacg	caaacaattc	gctgcgcttt	acgaacttta	cattgactgg	180
aattctaaaa	tcaacgtaat	ctcacgcaag	gatatcgaga	atctgtacga	acaccatgtg	240
cttcattcgc	tgggtatcgc	ccgtgtcatc	cgtttccggg	ccggcagcag	tgtcatggac	300
ctcggtagcc	gaggaggatt	ccccggaata	ccgttggcca	ttctttttcc	ggacacgaaa	360
ttccatctgg	tggacagcat	cggcaagaaa	gtacgtgtgg	caaccgaggt	agccaatgcc	420
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gaactggaac	acgaggcgat	gccgtttaag	cataagacaa	gtatgcataa	cctgaatgaa	660
gatttcgatg	aggagttctt	tcaaaccaag	aaagtgggat	atgtaacgat	ttaa	714

&lt;210&gt; 3431

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3431

tataccacct	tgataccttt	tccggtgata	ctctcaaaac	tctccaactg	ggcaggaact	60
atcttctcca	cctcttgacg	agaagagaca	atggctccgg	caagcggatg	ttcggattta	120
agctcagctg	ccagcagaac	attcttgaaa	tgctcttcct	gtacttgggc	ccaaagccat	180
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ttgccgatgc	ccaccatcag	agcggtagga	gtagcaagtc	ccaaagcaca	cggacaggca	360
atgaccagta	cggatacagc	cgaagcaag	gcatgtgaga	aataa		405

&lt;210&gt; 3432

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3432

ttgcaaccgg	tatctgcggc	attgcaactc	agcttcagcc	gtacggaagt	agaatcactg	60
aaggagcaga	aagaagctct	gaccgaccac	tcgccggaac	cggcccgaat	catcggcgaa	120
tcggccgcca	tgcaggctat	tttccagacc	atccggaaat	ttgccgatac	ggacgccaat	180
ctgttgcttt	taggtgaaaa	cggtagagga	aaagatctga	tagcgcgcta	tgtatacgaa	240
cagtcgcccc	ggaaaggcaa	aatatacgtc	ccgatcgatt	tgggaagcat	ccccgaaaca	300
ctgttttgaga	gcgaactctt	cggattcgaa	aaaggtgctt	ttacagatgc	gcggaaaaag	360
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cgcgaaacca	tcagcgaagt	actccggctt	tgtgccggca	acattacgtt	agcctcagaa	960
atgctgggaa	tcacccggac	atcgctatac	aggcggatcg	agaaacacgg	attataa	1017

&lt;210&gt; 3433

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3433

ttcatattag	tgaatcgaca	gcataaaaaa	agaaaaaaga	atgtggcagg	ctgggttaa	60
ctgcttatct	ttgcaaccgt	tatgaagaga	ttccgctata	tacttgccgt	tattctttct	120
ctccttatag	tatatgtagg	agcgggagtc	tctgttgccc	aatattgttg	cagtgggtgt	180
gaaacggcca	attgttgctg	tgccgacaaa	tgcggtctct	gtggtaagtt	tgactttgag	240
ttccataaat	catgccgggg	cgagggatgt	acggcgacca	tctataagct	tgatctggta	300
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tcggacttgc	tatgcgctct	tttcgcgat	gagggtgttg	atcctcctta	tgtgataccg	420
ccaccaaga	caagttcccg	gcattatctg	gctctttatt	ctactttgct	tatttag	477

&lt;210&gt; 3434

&lt;211&gt; 1302

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3434

gaaaatatct	ccgtttcccc	cggaaagaaa	aaacaaatga	ttgaaaaaat	gaaggaacaa	60
gattgtgaca	aaaaaaagag	catatctcag	ggaaagaaac	acaatatctt	ttataagatg	120
attatgagcc	gtagagcctt	cggaaataact	tattttgtat	atggggcaac	agtcctttct	180
gtccttgccg	aaagagcaga	gattctgtcc	tccacccctt	ccgtggggag	ccggatattc	240
ctcttactga	gtatatgttt	tcctttcgct	tatggtacat	acctgctttg	caccaagat	300
aaaaacagta	taaaaatgaa	tgaaattata	acttctgact	actttaaaag	agtcatttcc	360
cataagtgga	atataatcat	ttgcctaata	gtaatcggtg	tgtgcctttc	tttcgtagtg	420
atcttttcag	atcgtaactg	ggaagcacca	ataaacttca	acctgccgag	tataatagta	480
gggtcagtta	caggctattt	attgggagta	ttgattcgct	gagttttaag	gagaaataat	540
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ggagaaaagg	cagaggggtt	caagggtata	gaaatggagg	ttatcgacga	agccagggcc	1260
cgggaacggt	acaggcggtt	tctggccgta	tggaaagaat	ag		1302

&lt;210&gt; 3435

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3435

agatgcagat	tccacacaga	ttccataaac	aacccaaact	ttttttat	tttgctgcaaaa	60
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gagggttcatt	tcaaaattct	cactcattcc	tttgcaactc	atcagatgat	gtgtatatatt	120
gcgaatcata	aacatatcac	aaatatgaaa	aatgaagttg	atggaaggcg	ggaaatagcc	180
tcacgaaaca	cggcctgggc	taatatcatt	gcccgtaaac	ttactcattg	gggtgtcaca	240
cccaaccaaa	tttccatgat	gagtgtattc	ttcgctatgg	tgggatgtct	cctgctgatt	300
ggcacagtca	tttatcccg	cttcaataaa	tatgtagcct	atattctgtt	tatcgtttgt	360
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attatcaaca	tcggtcttat	cgcaacactg	atacaccgct	tgtacctcat	atcacacact	780
acaaacactg	aaataaaatg	a				801

&lt;210&gt; 3436

&lt;211&gt; 666

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3436

tcttttttat	ctacttttgc	aggcatgaaa	ccgcttacag	atactgatta	catacacgca	60
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gcagctgccc	aactttattg	ccggccggaa	gttgattatt	ccatgcaaac	atttcacggt	300
gaaggacgtt	ctgtattagt	cgtaaaaata	gatgaaagtg	aacacaagcc	cgtttttgca	360
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tataccgaac	gggaacaact	gttgctggac	ttactggaag	aaaatacttc	gctttctctt	540
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tttatccggt	ttgatattgt	ggaaccgata	ttcgagaacc	ataaattcta	cttcaggcta	660
aaataa						666

&lt;210&gt; 3437

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3437

gaaagaatat	ccattatgac	aggtgactac	aaattccggt	ttatgccggg	gatattatcc	60
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aagggagttt	cccttcaggt	gaagctgcct	gccgatgtct	ccggagaaac	aatgaaggat	180
ataaacctct	acgtgttcga	tgataaagac	ctgttgtag	acatcctgcc	tataagtcgc	240
tcggaatctg	ttgtattaga	ttatccgggt	attcccgtac	ttcattgtat	cacttggtgt	300
aataccgggg	atggtgctgt	gtccgccagt	tactgaaaa	aaggcgatcc	gctctctgcc	360
ggtttcatct	ctttgaaacc	ttctgctgct	acaagagcac	agatgagtct	cttcaaccct	420
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tctttcgagg	tgggaaaaga	ttgtacgatg	cctaccttta	acctatttcc	tgttatgggg	720
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ttcaaactcg	atgtcgatgt	gcaggtagag	ataaccgggt	ggggagagaa	atatatctgg	900
aaagagtata	actga					915

&lt;210&gt; 3438

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3438

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&lt;210&gt; 3439

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3439

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&lt;210&gt; 3440

&lt;211&gt; 981

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3440

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&lt;210&gt; 3441

&lt;211&gt; 228

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3441

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&lt;210&gt; 3442

&lt;211&gt; 1542

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3442

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&lt;210&gt; 3443

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3443

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&lt;210&gt; 3444

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3444

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<211> 4338
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&lt;210&gt; 3446

&lt;211&gt; 1032

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3446

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<210> 3450

<211> 378  
 <212> DNA  
 <213> B.fragilis

<400> 3450

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<210> 3451  
 <211> 912  
 <212> DNA  
 <213> B.fragilis

<400> 3451

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<210> 3452  
 <211> 450  
 <212> DNA  
 <213> B.fragilis

<400> 3452

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ataacgatta	atttccatta	ctgcatgggc	cgtcttgccg	atgtagagtg	gggaagtgcg	180
tccgtttgtg	catcgtgtgg	agagaagaag	atgacctcac	attgttgtaa	agacgaggcg	240
cattacgtca	aactggcggt	agatcaggat	gtgaaccacg	taccggtaac	taatctatta	300
ccggcagtga	cagaactgtt	acctgtgatg	tatagtgcct	ttataccatt	ggaggcagaa	360
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<210> 3453  
 <211> 267  
 <212> DNA  
 <213> B.fragilis

<400> 3453

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gggctgccca	ttcctcccat	accggacatg	ccactccccg	aagaaagtgc	aggcggcatc	180
gaagcaactg	acgttacaga	agtcgacgag	ggagctgcct	gtgccgacga	agcggaaaag	240
cggttcagtg	ccaactgctc	gagttga				267

<210> 3454  
 <211> 207  
 <212> DNA  
 <213> B.fragilis

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ggagaaaacg	ccctgttgaa
120	
agggaatggc	agacctctcc
caaaggaaaa	atcgcacgac
ccaaagaagg	cagtcagcct
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gccgaagaga	aaaaacctac
tatctga	
207	

<210> 3455  
 <211> 258  
 <212> DNA  
 <213> B.fragilis

<400> 3455	
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ttccaggtgg	ggtagacatc
ctccggagggt	ccgtttcagt
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ccgcctgttc	cgtatcagat
gttccactgaa	cgcaaaatgt
cggttggttt	atttctcaac
120	
gattgttccc	ggaagacaaa
aatattatct	tttcggataa
acaaacctac	tcaaaagaat
180	
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gagtagacgta	aaaaaatatc
ggagaagtca	tgctgcgttg
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258	

<210> 3456  
 <211> 417  
 <212> DNA  
 <213> B.fragilis

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catcggtgaa	ccggaaggga
120	
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cctgcagctc	aaggacagcc
tgataaagaa	cagggagttc
180	
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gctccactgc	cggatcgggg
agcttgacgc	caagtatccg
240	
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ggatgcggca	agttgccggg
agatcatcca	atggatcatc
300	
cacgtgaaag	gcaagccgga
taacctgata	tgtattatct
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360	
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caggaggtaa	gggatga
417	

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 <211> 495  
 <212> DNA  
 <213> B.fragilis

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cagccctgaa	aaaaatgtat
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ctggtcgcag	gacggtgggt
actattgtgc	cgattttatg
180	
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tgtctggttc	aatgcacagg
gacaatggca	gatgacgcag
240	
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tgaactttct	gccacggtat
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300	
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aatttccgaa	atggcaaccg
360	
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acagcaaaat	gtagacatcc
agtatcaact	gttctatagt
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tggatgatat	attgggcccc
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495	

<210> 3458  
 <211> 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3458

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aaacaagaaa	ccgaaaaaga	gacgcaagaa	ttagctgatt	ttattttatc	aaaacttaat	180
tcctaa						186

&lt;210&gt; 3459

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3459

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aagactaccg	gcaatgaatg	gaaaagccgg	gaattcgttc	tggagacaga	agagagcaaa	180
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aatacgctga	cagcctggga	agtgactgtc	attaagcaaa	aggaggaaca	gccggcatga	360

&lt;210&gt; 3460

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3460

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aaattaataa	caaaaagcca	caaaaagatg	aaaatgtatc	cggttttttg	cgctcttatt	180
gcatatttat	aa					192

&lt;210&gt; 3461

&lt;211&gt; 1353

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3461

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ctcaatatca	ttatggcaaa	acaattcaag	cccgaaaccc	tgtgcgtaca	agcaggatgg	120
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<210> 3462  
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 <212> DNA  
 <213> B.fragilis

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ggactgacta	cagcggcagg
ggcatgtacg	tcataggtat
agttacctgt	ttaaaagcat
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tatcagatgg	atacacagaa
aatccaaac	ggaacaatga
gtgacagtag	aacgaattga
	ataa
	684

<210> 3463  
 <211> 276  
 <212> DNA  
 <213> B.fragilis

<400> 3463	
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atccacgacg	ccgcccattgt
tataaagcgc	agttggcagc
aaaagccccg	ccatcctgga
	gtgggcagag
	aaataa
	276

<210> 3464  
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 <212> DNA  
 <213> B.fragilis

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gatgcggaag	agtatcgtgc
tttgtgaaaa	gcaaactgat
aaaggaatcg	atgtggtgga
gcaccgagtc	atattgtact
tttgagaaag	aatgggaac
gcccgaaaga	acttacgaaa
tttgctgtgg	cgtctaccgg
ggtacatcgt	gcccgcacac
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tacacttact	ttattcccgg
	acctatcggg
	atcaatctgg
	gaatggcaca
	tgatccggaa
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&lt;210&gt; 3465

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3465

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cggaaaggga	cgcttcaaaa	tccgaatgta	accctggaag	agctggagaa	gatagaaaag	180
gccacccgtg	aaaaggaaaa	agcggaaaca	caatattatc	tgccgcccac	gctgatcttc	240
ctgaccgtga	cagccatact	ggcactcata	ctctggtgga	tattgtag		288

&lt;210&gt; 3466

&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3466

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gaagaaggta	aatttttaca	agtagtcggt	actcagaaag	acggaacaga	cgtgactgtg	420
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&lt;210&gt; 3467

&lt;211&gt; 1632

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3467

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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ttattgaaaa	aatctccctt	ccccagtcac	ataattaaaa	agaaagatgt	aattttgcat	180
gccaaaaaat	aa					192

<210> 3470  
 <211> 846  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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&lt;210&gt; 3473

&lt;211&gt; 3285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3473

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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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&lt;213&gt; B.fragilis

&lt;400&gt; 3477

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&lt;211&gt; 2313

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3478

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&lt;210&gt; 3479

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3479

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&lt;210&gt; 3480

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3480

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 <213> B.fragilis

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&lt;210&gt; 3487

&lt;211&gt; 1101

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3487

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&lt;210&gt; 3488

&lt;211&gt; 747

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3488

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&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3489

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&lt;210&gt; 3490

&lt;211&gt; 1434

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3490

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&lt;210&gt; 3491

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3491

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&lt;210&gt; 3492

&lt;211&gt; 1332

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3492

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&lt;210&gt; 3493

&lt;211&gt; 759

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3493

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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<210> 3497  
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 <212> DNA  
 <213> B.fragilis

<400> 3497

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 <212> DNA  
 <213> B.fragilis

<400> 3498

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 <212> DNA  
 <213> B.fragilis

<400> 3499

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 <213> B.fragilis

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 <213> B.fragilis

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 <213> B.fragilis

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&lt;210&gt; 3504

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3504

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&lt;210&gt; 3505

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3505

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&lt;210&gt; 3506

&lt;211&gt; 1659

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3506

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&lt;210&gt; 3507

&lt;211&gt; 1185

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3507

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 <213> B.fragilis

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3511

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&lt;210&gt; 3512

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3512

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&lt;210&gt; 3513

&lt;211&gt; 2112

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3513

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&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3514

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3515

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&lt;211&gt; 2334

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3516

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&lt;210&gt; 3517

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3517

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&lt;210&gt; 3518

&lt;211&gt; 513

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3518

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&lt;210&gt; 3519

&lt;211&gt; 1350

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3519

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&lt;210&gt; 3520

&lt;211&gt; 885

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3520

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&lt;210&gt; 3521

&lt;211&gt; 2811

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3521

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&lt;210&gt; 3522

&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3522

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gaggaataa						309

&lt;210&gt; 3523

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3523

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 <212> DNA  
 <213> B.fragilis

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<210> 3525  
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 <212> DNA  
 <213> B.fragilis

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 agttacttcg gtgccagcgc agaaactctg caaaagagtg ttatcgcgcc actcgaagag 240  
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 gtctctatca ccgtctactt taaacagggg actgaccctg acatggcggc ggtgaatgta 360  
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 accacttga 429

<210> 3526  
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 <212> DNA  
 <213> B.fragilis

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<210> 3527  
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 <212> DNA  
 <213> B.fragilis



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<210> 3528  
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 <212> DNA  
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<210> 3529  
 <211> 1236  
 <212> DNA  
 <213> B.fragilis

<400> 3529  
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<210> 3530  
 <211> 198  
 <212> DNA  
 <213> B.fragilis

<400> 3530

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&lt;210&gt; 3531

&lt;211&gt; 1182

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3531

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&lt;210&gt; 3532

&lt;211&gt; 1524

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3532

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&lt;210&gt; 3533

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3533

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&lt;210&gt; 3534

&lt;211&gt; 1389

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3534

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&lt;210&gt; 3535

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3535

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ttcttccact ga

192

&lt;210&gt; 3536

&lt;211&gt; 3768

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3536

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&lt;210&gt; 3537

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3537

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&lt;210&gt; 3538

&lt;211&gt; 1134

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3538

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<211> 321

<212> DNA

<213> B.fragilis

<400> 3539

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<211> 189

<212> DNA

<213> B.fragilis

<400> 3540

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<210> 3541

<211> 1047

<212> DNA

<213> B.fragilis

<400> 3541

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<210> 3542

<211> 594

<212> DNA

<213> B.fragilis

<400> 3542

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&lt;210&gt; 3543

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3543

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&lt;210&gt; 3544

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3544

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&lt;210&gt; 3545

&lt;211&gt; 1656

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3545

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&lt;210&gt; 3546

&lt;211&gt; 681

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3546

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&lt;210&gt; 3547

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3547

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&lt;210&gt; 3548

&lt;211&gt; 1599

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3548

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&lt;210&gt; 3549

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3549

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&lt;210&gt; 3550

&lt;211&gt; 1845

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3550

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&lt;210&gt; 3551

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3551

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catgtttttg	tgtga					315

&lt;210&gt; 3552

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3552

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&lt;210&gt; 3553

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3553

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&lt;210&gt; 3554

&lt;211&gt; 1734

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3554

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&lt;210&gt; 3555

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3555

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ccggggatta	agtaa					195

&lt;210&gt; 3556

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3556

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 <212> DNA  
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<400> 3558

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 <213> B.fragilis

<400> 3559

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&lt;210&gt; 3560

&lt;211&gt; 1353

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3560

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&lt;210&gt; 3561

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3561

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

<400> 3563  
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 aagaaggatg cctactgtaa caaaaaacct gataattatc aatgttctcc tgttctctgc 180  
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<210> 3564  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 3565

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3565

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&lt;210&gt; 3566

&lt;211&gt; 3036

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3566

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&lt;210&gt; 3567

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3567

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tgtgcataa						249

&lt;210&gt; 3568

&lt;211&gt; 1482

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3568

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&lt;210&gt; 3569

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3569

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aataataaaa	tttataggat	tagcactcgt	aagctggcta	cagttaagaa	atattttatg	360
gtacaaaatg	atactattta	g				381

&lt;210&gt; 3570

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3570

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&lt;210&gt; 3571

&lt;211&gt; 3012

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3571

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&lt;210&gt; 3572

&lt;211&gt; 2406

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3572

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&lt;210&gt; 3573

&lt;211&gt; 1710

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3573

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&lt;210&gt; 3574

&lt;211&gt; 1311

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3574

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&lt;210&gt; 3575

&lt;211&gt; 1311

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3575

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&lt;210&gt; 3576

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3576

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&lt;210&gt; 3577

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3577

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381

&lt;210&gt; 3578

&lt;211&gt; 1200

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3578

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&lt;210&gt; 3579

&lt;211&gt; 1287

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3579

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 <213> B.fragilis

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 <212> DNA  
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<400> 3581

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 3583

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3583

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&lt;210&gt; 3584

&lt;211&gt; 1470

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3584

aaagacagag	gatggggggc	ggggaataag	aagtggcgga	tgcctacttt	agatgaactg	60
aagcttttgg	gcatgaggat	tccggaaact	atttcttcta	ctccgaattg	gaactctatt	120
tctatcagtt	cggatgatgg	tagttttggt	attagcaatg	gaattcgtac	gaataaccgc	180
tattatcttc	ctgctaatag	atatggggat	agcggggagt	attggtctgc	ttctgccgcg	240
attagtgggt	cagccccagg	actttgcttt	agatattcaa	gtacttccat	aaaagattgg	300
accactgcgt	tggtgtctgg	agccattcgt	tgcgttgttg	attctgagaa	taattattca	360
aaagtttatc	gtgttggtta	ttcgaatacc	gacccctctga	atcaagaaaa	taatttgtat	420
agcgttccgc	caccggcatt	gttgaacgaa	ggagaaaacga	taacattgcc	agcgtctgtc	480
acaaaattca	atgattacga	agtacgtgaa	gggagtaaag	tggtaacaaa	gtattttcat	540
tccggatggc	ttgtaaatgg	acggcatttt	gattttgggtg	attcatatgt	ggtcgggtgct	600
gatgggatag	gaaacactga	agtggagatt	aggcctgaat	ggactaaact	ttgtaaaata	660
gagtatgttg	ctactcctcc	atatcccggg	gctatttttt	attggcggtt	tcccagcact	720
actatcttcg	taaagatagg	agagaaacat	tccttatttt	atgttgaatc	agcagtaaac	780
tcttcgcctg	tcaagatgtg	taccggactg	ctgggttaatg	gtattcgtta	tagctttgga	840
gatgaaatag	ttgctagcac	tgatgtcaag	atagaacctt	attgggcaaa	tacaccggag	900
accccgtttg	catcaactaa	tttggaactt	tctaattccg	gttctactga	tgcaaccttt	960
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acatggcgat	tacctgccgt	gtacgaaatg	gctgtctctac	ttcatccata	tcaagatagt	1260
tccgaaggaa	ggtttttatcc	tatcttaaat	cttatttttc	cgtatcatac	agtatatata	1320
ggaatcccag	gtatttcggc	ttcttatata	accgctggta	gtagaaataa	taaccgtgtg	1380
gttactgtaa	cgatttcgca	aggagacggc	ggtattactg	gtggcatgtt	cagtgtctact	1440



tctgattatg ctcgttgcac ccgccaatag

1470

&lt;210&gt; 3585

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3585

aactgcttct	ttttcgttat	ttttgcctgc	acaaaaacaa	atagaatgat	ggaacatcca	60
cttaatcaat	ttaaatactg	tccgaaatgc	ggttctgccc	cttttgagat	tcacaacgag	120
aagtctaaac	aatgtaccga	ttgcgggttc	gtttattatt	tcaaccgctc	atcggttaca	180
gtggcactga	tcttaaacga	aaaagacgag	ttactgggat	gccgccgtgc	caaagagccg	240
gcgaaaggga	cgctggacct	tccgggtggc	ttcatcgaca	tgaacgaaac	gggtgaagaa	300
ggagtaagcc	gggaagtaga	agaggagacc	ggactaaaag	tgaaaaaggc	aacctacctg	360
ttttcccttc	cgaacattta	tatctattcc	gggtttcctg	tacatacgct	cgacatgttt	420
ttcctttgcc	aagtgggaaga	tacaagtcac	tttgaagcaa	tggatgatgt	ggcggactcg	480
tttttcgtcc	cattgtgcca	aattaatccc	gaagagtctc	ggttgggctc	tatcaaaaaa	540
gggttaaaaa	gattcctgaa	agagaggtaa				570

&lt;210&gt; 3586

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (596), (597), (598), (601), (602), (603), (604), (612), (613)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3586

attatgaata	tagatataaa	ggaggcacat	cggaggatgc	tttatattatt	gcagtctttc	60
gatactgtct	gcaagaagca	cgatattgat	tattggctcg	attatggtac	actgctggga	120
gctatccggc	atcaggggtt	tattccttgg	gatacagata	cggatgtggg	gatgttaagg	180
agtgattatg	cactcttttt	ggagaaaggt	gtgtcggaat	tgcttcagga	tattttcttt	240
cagactccgg	aaacagaacc	ggccatggct	ccatggagct	ggttgggtga	ggcgcgggtg	300
agagatcggc	acagccggta	tggtccggat	aaaaagactc	cggccgagcc	gatgcagttt	360
ggtggattac	agttggatct	tttcatttat	gattgggatg	gtaagtatga	gaatgctttg	420
tcgaacagtt	ttgagcggaa	tttgagttag	agccgtatcc	atttgccgct	ggatgaggtg	480
gaatatctgg	atactgcacg	atttgaagga	gtggagtctc	cggttccgct	aggatacgat	540
gcttatctga	cccgcttggtc	ttcaccacgg	ggctggcgag	aagcgcgtcg	aggccnnngg	600
nnnntctatg	gnncctcccc	g				621

&lt;210&gt; 3587

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3587

tttaccgtct	tcgccgataa	tgccgcggga	gcaatatattg	tagacaagtt	ctttttggaa	60
actgccgatg	gagcttactt	taccgttgat	ccaatcgcta	aagcccggtt	acgtctcaaa	120
aagactgttc	ttttcctgtg	gatagctgaa	cgtgccatta	ttattcgaaa	cggccaggcc	180
ataaggcata	ttttccttat	ttaccatata	gtaggatttg	taatcgatgt	ctga	234

&lt;210&gt; 3588

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3588

catatatttaa	ttaatcattt	acgtattatg	aataaggctg	aacttattaa	tgcaatggca	60
gcggaatccg	gcttgagcaa	agtggattct	aagaaagcgc	ttgaagcttt	cttttcttcg	120
gttacaaaag	ctttgtcggc	tggtgacaaa	atttccttgg	ttggatttgg	tacattctct	180
gtagctgaaa	gatcagcaag	aatgggaatc	aatccttcta	ccaagaaggc	aattgagatt	240
cctgcaaaga	aagttgctaa	atttaaaccg	ggtgctgagc	tgacagatgc	tataaaataa	300

&lt;210&gt; 3589

&lt;211&gt; 1281

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3589

atgaagcaga	tcttttttatt	tttattcatt	ttcctgctta	cctcctgtat	ttcaggaggt	60
gccaaagcaag	atcaaattaa	ggttatagat	cgtaccattc	gcattggcga	tgcaatggag	120
catcctgttc	caatgaaact	ttcagctttt	gttgatagta	ttacttatat	tcctttggag	180
acaacaaaaa	gttatgtaaa	agataaaaatg	cttattttctt	atgtggagcc	atattgggtc	240
gtttatccgg	gaagcttatt	tgataaaagaa	ggacgatttg	taacaaatat	tggtgcatta	300
gggcaagggc	gtggtgagga	aaccaatggt	tggggatata	gtgtttttta	tgatcttcag	360
agaaatgttt	tctatacatt	gggggataaa	attatagagt	ttgatagtaa	tagaaaattt	420
actggaaaag	aagttagaat	atcttatcgt	gaaagaaatg	cgatgcaggt	agctgggtga	480
ttgaaaaatg	tggttgcttt	gctaaaagct	gatacaaaat	atttattggt	aaattatccg	540
gattccattt	tttggatgga	ctctgattta	gaagttacac	ataatacccg	gattattcca	600
tatagcttat	tccttgatcc	tccgggagac	gcgaatggaa	tgtcatatac	attctcacgt	660
tataaagata	cgactatctt	ttataattgt	tttacgggat	ccatttatgc	agtgactgat	720
acggggcttc	aaaaacgggtg	ggacttggac	ttgaaagggc	taaaaccgga	caatcgttgt	780
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gatgataaga	aatgggtcaa	tcatgcttac	gaaagtgaac	gttatgtact	gatgtcctgg	960
gttaacttga	aggctttttc	cggatggaga	ggtctgaaag	aagaatcgca	tttagctttc	1020
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gatggtggaa	tgatgtttta	tccatcactt	ggagtttgtg	acgggtgcgat	ggtgtactct	1140
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agtgatcgtc	ttattgcact	tgctgattca	ctggatgatg	agcaaaatcc	gattcttgta	1260
attgctcatt	taaagaaata	g				1281

&lt;210&gt; 3590

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3590

tttcattttg	tcaaattttac	aattttgtccg	gtaagctctg	tctgtaaccg	gataaattcg	60
gatgaagatt	catgcagcgc	aaaaaatgcg	ctgcatttgg	cttctgtgtt	tgtctatatt	120
gtagctgttt	tgctgattgg	cggatgtttg	gatatgatat	tccttgatcc	gtctgtctac	180
ttgtctcctg	tgcttgctgt	ttgctttctt	tcttctatcg	gtgctttttc	tttttcagta	240
tgcaaccagc	ctcttttcttc	cccaattggg	tcactgattt	atcctccgtt	tttagtaagt	300
taa						303

&lt;210&gt; 3591

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3591

ttgatttctg	tcgcatacaa	ggctgcaaat	atagtttttt	tttcacattc	agaagtaatt	60
aggaggcaaa	tatttgaatg	tgaaggggat	ttttgggacg	cttcgacaga	tattggcgga	120
agtatcgttt	gtcttttttg	caatatgtca	aatgaaacct	cccagttttc	tttttttcga	180
ctctcggggac	aggcggggcc	ggaaaaacgt	ctctattttc	tttcccggtt	tatcgttttg	240
ttttgtccgg	cttttatttt	ccgtcagaaa	gaaagcgatc	tggaagtaaa	tattcccggt	300

gctcttcagg gaggggaatt ttag

324

&lt;210&gt; 3592

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3592

tcccgaagag	ttcgggttgg	gctctatcaa	aaaaggggta	aaaagattcc	tgaaagagag	60
gtaaaataca	taaaaacaag	tacttttgtc	aaaactctga	attatgaaaa	aaaagatatc	120
acgattgata	tgtgccgtgg	catgttgtgt	gcctgtcgcc	ttgcaggcac	aaaccagcga	180
gaaaataacg	tctcccgtaa	atctgtataa				210

&lt;210&gt; 3593

&lt;211&gt; 3069

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3593

aagctgccgg	tatgggtggt	tccggcaatt	atgcttcagg	ttctcaagga	ctcttgttgg	60
gagatttcaa	ccagatccgt	attcttgaaa	gtacgtctaa	gtctggactg	gcaatatctc	120
ccgcattctc	ggaccgggat	agcgaggta	ctcttccgt	tacttctcct	tctgtccctg	180
tttacttctt	tgtcgaggag	gctgcgggcc	ccacaaagt	ctaaattgtc	gggccttgcg	240
ggagaatccg	tcgttggtat	agagaatcgg	gtgtataacg	atctccctgc	cgcattctaat	300
atttattggg	acgcggcaca	aggcagattg	acgttcgatg	atgttccgtc	gtatgttcct	360
gctgcccga	acaaaaaaca	gggagtgtat	tttctgtatg	gttccttaat	tgcactgcaa	420
ggaggaagca	gcgcaactga	tgtgtgtcag	ctcgatgcag	cagaagtga	tcctgtatgg	480
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gatctggaga	atgtattgac	acataattcat	aatccgggta	atcgtattgg	tgatatctgc	600
cgttatctta	cgcagcgcgg	atgggctcct	ccgggaaaga	aatggaagat	gcctgtgaaa	660
gaacgttttg	aagctgtctt	gaacagtata	tatagaactg	aaggatcttg	gttaccgata	720
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gtggagcaac	gcaaaccttt	tgcgtgccc	tctacctctc	tgactctcag	tgatccgtct	1140
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gcgattatcg	atcatttttg	taagcagtat	atgggtagag	gaagtaaagt	ttcatcggac	3000
aaggtgatag	aagaaggtgt	tgtatatcat	tctgcagccg	gcttccagat	tcgatgtgtg	3060
agacagtaa						3069

&lt;210&gt; 3594

&lt;211&gt; 702

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3594

aagagattat	cggaaaataa	taatttatct	ttgccaatat	taaatatgaa	gattaactat	60
acatatatga	tgcgatactc	cgttattatt	cccgtttaca	accgtcccga	cgaagtggac	120
gaactattgc	aaagcctgac	agcccaacac	ttcaaggatt	tcgaagtcgt	ggtttagtaa	180
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cattactaca	acaaaccgaa	ctccggtccc	ggacaaaccc	gtaattacgg	tgccgaacgt	300
agcaacggcg	aatatctcat	catactggat	tcggactgta	tcttgcccga	aggatatctc	360
gatgcagtag	agaaaagaact	gcagaccgcc	cgggccgatg	cctttggagg	gccggaccgg	420
gcacatagtt	ctttcaccga	tatacaaaaa	gccattaatt	actccatgac	ttctttcttc	480
accacgggag	gcatccgcgg	aggcaaaaag	aaaatggata	aattctatcc	gagaagtttc	540
aacatgggtg	tcccgcgcgg	aggtttatca	ggcattagga	cgtttctcca	atatgcgttt	600
cggcgaacac	atcgatttca	gtatccgcat	atccaaggga	ggataccaat	gccgtctctt	660
tcccgatgcc	tgggtgtacc	acaaacgacg	tacggatttt	aa		702

&lt;210&gt; 3595

&lt;211&gt; 765

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3595

cccgtgctat	ctttgggtaa	tgccgaaatg	gaacgtttgc	ggatgactac	caaaacagga	60
caggcagaat	ggcgcgcggt	ggacgagaac	cagaaaatgc	gggagttacc	tctggcaata	120
gaactccagg	actttacgat	tgatgaatac	cccccgaa	tgatgctgat	aaataatgaa	180
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gtttatctga	aagctgtgaa	taataagaca	ggacagcagc	gtgaaggatg	ggtgagttgc	420
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cgtgattcgg	ctacgattga	ggtgaataag	ccttttgagt	tggaagggtg	gaaaatatat	600
caattgagtt	atgacgagtc	gaaagggcgt	tggagtgata	tcagcgtatt	cgaactgggt	660
cgtgatccat	ggttgccggt	cgtttatacc	ggtatctgga	tgatgatagc	gggagctgtc	720
tgctgttttg	ccttgtcaca	gaaaagaaaag	gaggacaaca	catga		765

&lt;210&gt; 3596

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3596

aaaagcgtat	caaaaccctc	tcttttggtt	ttccaccttg	cgctgatac	cgtaatcaaa	60
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ttggaaccgg	ttctaaaaca	aaaagaagca	aaggaatcct	ccttcacttc	ttcttattcg	120
tttgcaatgg	ctaatactta	tgccttcact	cggttgtatt	cgtcagaaac	agtcagtttc	180
ttacgacctt	tagcgcgacg	tgcagccaat	actctacggc	cgttagctgt	agccattctc	240
tcacggaaac	cgtgtttgtt	ttttctcttt	ctggttagagg	gttga		285

&lt;210&gt; 3597

&lt;211&gt; 1884

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3597

caaataaaat	catcatctat	gaatagaaga	ctttctatat	tcgtaatcat	tttgtttttc	60
ctgttacctg	ttgccgcacg	ggcacaggta	acaggttctt	tccgcttcgc	acagttgaca	120
gacatacatc	tcaatcccaa	caatccgaag	cgcacagaag	acttgaaacg	ttccgtcgaa	180
caaattaacg	ccacaccggg	agtagacttt	gtattagtca	ccggagacct	taccgaagag	240
ggtgatcgca	cgacctgtt	agttgtaaaa	tctatcctgg	accgactgaa	agtgaaatat	300
tacgttatatac	cgggcaacca	cgaaacaaag	tggagtgtt	cagggtgcac	tgctttcagc	360
gaaatattcg	ggggagaacg	ctttaaattc	gaacacaaag	gattcttggt	tttaggggtt	420
aattcaggac	cactgatgcy	tatggcctac	gggcatgtag	taccgcaaga	catcacatgg	480
atgaaacaag	aaatggataa	agttggaaaa	gataagcctg	taatcctggt	caccatttat	540
cctatgcagg	atggggatgt	ggacaattgg	tatgatgtta	ccgatgccgt	acgtccatac	600
aatatccgca	cttttatcgg	aggacactat	catcgtaatc	gcttcctctc	atacgacggt	660
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&lt;210&gt; 3598

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3598

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&lt;210&gt; 3599

&lt;211&gt; 777

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3599

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&lt;210&gt; 3600

&lt;211&gt; 474

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3600

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&lt;210&gt; 3601

&lt;211&gt; 1902

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3601

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&lt;210&gt; 3602

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3602

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&lt;210&gt; 3603

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3603

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&lt;210&gt; 3604

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3604

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<210> 3605

<211> 924

<212> DNA

<213> B.fragilis

<400> 3605

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<210> 3606

<211> 1176

<212> DNA

<213> B.fragilis

<400> 3606

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<210> 3607

<211> 714

<212> DNA

<213> B.fragilis

<400> 3607



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&lt;210&gt; 3608

&lt;211&gt; 1200

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3608

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&lt;210&gt; 3609

&lt;211&gt; 888

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3609

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<210> 3610

<211> 216

<212> DNA

<213> B.fragilis

<400> 3610

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<212> DNA

<213> B.fragilis

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<212> DNA

<213> B.fragilis

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3620

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&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3621

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&lt;211&gt; 1380

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3622

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&lt;210&gt; 3623

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3623

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```

<210> 3624

<211> 528

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (388), (394), (426), (439)

<223> Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3624

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cctatgaatg	tgtgcggtggg	agtattgtat	cttggtatct	tgttactgat	ctacgccttt	180
tcgcaaaaga	gttatttcat	cgggtggatg	ggaagctgcc	aggctgccgt	ttcatctatg	240
gtatcagtcg	cgatgctgac	tgtagtgtatg	gggctgattc	gccaaagtga	gtccgatgta	300
cctctgttag	gtgctgagag	ctggctgggg	ttttcgcaga	tggtgtcggc	atgttcgttt	360
gtgctgttgt	tcctttggat	gatcactntg	ttngnactga	ccacaattcg	gaggatacac	420
catttncgct	tgtgtgatnt	tccttttgta	ttgaatcact	tggggactgt	tccttgact	480
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&lt;210&gt; 3625

&lt;211&gt; 2682

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3625

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&lt;210&gt; 3626

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3626

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&lt;210&gt; 3627

&lt;211&gt; 2520

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3627

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&lt;210&gt; 3628

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3628

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&lt;210&gt; 3629

&lt;211&gt; 2109

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3629

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ccggactttc	tgcaaacaaa	tgatactctt	acgcgcagat	ctcaagaaaa	aatgacaaa	300
cggatgcagg	tgattgccgt	ggccctgaaa	ctggattatt	actactatca	aaacaatccg	360
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&lt;210&gt; 3630

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3630

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&lt;210&gt; 3631

&lt;211&gt; 426

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3631

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gacaacaacc	tgaatgaact	ggggaaatgg	gaagtacgga	acttttcttc	attcaaaggc	240
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ctgcaggaaa	gcaaagaacg	ggaacagatc	agatgttcag	aggacatcta	caagctgttc	360
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tgttaa						426

&lt;210&gt; 3632

&lt;211&gt; 555

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3632

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tgtgaggaga	cgaaagaagc	tacgaagttt	gataactggc	gggcacgtaa	cgaaggatat	120
atcgattctt	tgaagacggt	atttgatgaa	aaaaccgatc	cggaactgaa	agcttttgag	180
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gaaacatttg	accagaactt	tacgggagct	gatccggggc	cttttgattc	acctactaaa	360
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cgtatgcgtg	tcggagaaa	atggcttggt	tatatctccg	gggagttggc	ttacggagca	480
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&lt;210&gt; 3633

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 <212> DNA  
 <213> B.fragilis

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 aatccggtag aaaacgccga agataatacg atccggggct gggaagaact gacagaacat 420  
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 atcacaacct cggtaatgat tcaattagga cgcgtgaaag gtaacaaaat ggtcaacatg 720  
 caactcagca accggaagct cgtagaccgt ggtactcgta tgattattga agaactcggg 780  
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 gatgcttata aagccggata a 861

<210> 3634  
 <211> 798  
 <212> DNA  
 <213> B.fragilis

<400> 3634  
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 cagaaagcgg gtgtgatgga aaatgtgtgg tcggtatttg gccagatcac ccaggaagac 240  
 ggccaggagc ttcattgaagc ttattcgcaa atgaatgtgc tggctatcgg ggggaatggtg 300  
 aatgttacta ataaaaaagt tgaagagggt tgggacacgg atacccttag cctgtataag 360  
 gtatgtacca ttgacgccga ggttcggaaa gaggacaagt cggatagttc gtatgccctt 420  
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 cttttatccta acagttatga accgaatata ttggtgaaag ccggtaaaga atatgcgatt 600  
 ccttttagta atgctgtcga ctatcgtatg gagaagcagc atggtaagga aagcgagaag 660  
 ataaaatgta tgatggtggc taccaaggaa gatatccat ttaccaaaga agtcacttat 720  
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 atggtattga taaaataa 798

<210> 3635  
 <211> 231  
 <212> DNA  
 <213> B.fragilis

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 ttggctacag gagagtcgtt ccccgatgga gatatagcct gtatcggatga cggatctgtg 180  
 gactgtccgt tcacatatct gaaagttgaa gtagtatacc gtgaagaata a 231

<210> 3636  
 <211> 1215  
 <212> DNA  
 <213> B.fragilis

<400> 3636

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gg	tttgaag	attcattcct	gaaattgact	ttgccgaatg	gtgaaaagaa	aattttggag	180
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gaat	atgggtg	ctatccaatc	actcgaagaa	atcaatgccg	taggtcatcg	tatgggtgcac	300
ggagg	tgaac	gcttcagtaa	atcagtactg	ctgactaagg	aagtgcctga	ggcttttgc	360
gcctg	caatg	atctggcacc	tctccacaat	cctgctaacc	tgaaaggagt	tgacgccatt	420
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attgctg	cta	tcaaagatgg	taagtgtatc	gatacttcta	tgggactgac	accgttggaa	720
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gccgg	atga	tgaacggctc	aagtgatatg	cgtgacttgg	aagctgccgt	tgccaaagg	900
gatccg	cagg	ctatcctgac	tgaacagatg	tacttctatc	gcattaagaa	atatattggt	960
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&lt;210&gt; 3637

&lt;211&gt; 1473

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3637

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agaac	agttc	aaggattaca	agcaacaggt	ttgggtgaaa	aaatctacct	tcttgtcacc	120
tcacc	cagct	tcgatccact	accaggatgc	gaactacttt	atgtagacaa	gcttaccac	180
agcgc	cctcca	tgtacgccat	tgtacacctat	tccgatgcaa	gctacacatt	actttatacc	240
aaata	tacat	cacttgaact	gggactat	tttgaac	ggatgattca	cattgccgaa	300
gattc	cggtc	ccggcatggt	atacgcgcgac	cattatcaag	tgacagaagg	taaacagagt	360
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ttcgact	atg	tagatcctaa	aaatcgtgac	cgacagattg	agatggaaga	ggcatgtacc	660
gaacat	ctgc	aagagatagg	cggttatctg	aagcctgaat	tccagaaaat	agaattcaac	720
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gaacgc	cctga	tccacttgat	tcccgaacgt	aatgatttgg	gtataggcgg	ttgctggaat	960
ctggg	agttc	accatcctct	ttgcggtaaa	tttgctgtcc	aacttgacag	tgacgacgta	1020
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ttaggt	gctc	ctcgtgcatt	ctacacacca	atactccgtg	aattgaagg	acccaatacc	1260
agctat	ggcg	aagattacgc	attaggactg	aatttctcac	gccagtatca	gatcggacgc	1320
gtatac	gaag	tcgtttatct	atgccgccgt	tgggatgata	actcggatgc	ctctctcgac	1380
atcgta	aaga	tgaatgctca	caacctttac	aaggaccgca	tacgcacttg	ggaattacag	1440
gcacga	attg	cattaaataa	gaaacaaaga	tga			1473

&lt;210&gt; 3638

&lt;211&gt; 702

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 3638  
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 catggcggag acttgattga attctggcta aagcccgag tctagctct tggagttcct 240  
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 caaggacttt cgatgggtac ggccgctcat gccgtcggca cctcaacagc catggatctc 600  
 agcagtaaat acggtgccta tgcaagcctc ggtttaacct tcaacggtat ttttactgca 660  
 ttgttgaccc caactattct gcgattatta ggaattctct aa 702

<210> 3639

<211> 1026

<212> DNA

<213> B.fragilis

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 aaacgtagtg ccggaactaa atatactttc cgcggtaaac agatcgaggt caaacttctg 180  
 caacacaagc atgactttta aggggtggac attgctttca cttcggccgg tgcaggcacg 240  
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 gctttccgta tggatgccga tgtacccttg gtagtgcccg aagtaaatgc agctgatgct 360  
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 gcaactgaaag ccactgaaga gctttctcat ataaaaactg tgcattgtat tacttaccag 480  
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 cctcaaattg atgtattcac agaaaacgga tatacgaaag aggaaatgaa aatgtataac 660  
 gaaacacgca aaatcatgca ctctgacgtg aaagtaagtg ctacttgtgt acgtgttccg 720  
 gcacttcgtg ctcaactctga aagtatttgg gtggaaacag aacgtcctat ttcgatagaa 780  
 gaagctcggtg aagcttttgc caaagggtgaa ggattgggtat tgcaagacaa tcctgccgag 840  
 aaagaatatc cgatgccctt gttcctggca ggcaagatc ccgtttatgt aggtcgtatc 900  
 cgtaaagacc tgaccaatga ctgtggatta accttctgga ttgtagggtga tcaaatcaaa 960  
 aaaggagccg cactgaatgc tgtccagatt gccgaatatc tgattaaaga aggaaatatc 1020  
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<210> 3640

<211> 1413

<212> DNA

<213> B.fragilis

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 accccctatc atatcaacgg ggaagaggtc agcggcaaac aggttgtgac ctatgataac 180  
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 gtgccctact ctacatcttc ttttccacc cttgcacaag aggccgaaaa taaaattcta 600  
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 acccgaggag aggtacttat gtcggaagga actatttgtg atgcgcgctt ctccaaatgt 780  
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ataggagcag	ccgtcatggg	cgagcaagg	tatacatag	acaccatctt	gctgcattat	1380
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&lt;210&gt; 3641

&lt;211&gt; 729

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3641

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agattgttaa						729

&lt;210&gt; 3642

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3642

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gtgggtgccca	gagacgggct	gtactctata	agtgccttac	ggggctcgtt	taccgggact	180
ccgtga						186

&lt;210&gt; 3643

&lt;211&gt; 1488

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3643

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gcagtcgttt	ttgtactcgg	gcttgtagtc	tcttactga	tggagcgag	ggcggaaacg	120
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ccgcagcctt	ctacctgctg	gacttgtaag	agtcgggatg	tgccctcgcat	gatggagacg	480
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&lt;210&gt; 3644

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3644

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&lt;210&gt; 3645

&lt;211&gt; 867

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3645

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<213> B.fragilis

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<213> B.fragilis

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<212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3648

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&lt;211&gt; 1158

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3649

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&lt;210&gt; 3650

&lt;211&gt; 1803

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3650

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&lt;210&gt; 3654

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3654

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&lt;210&gt; 3655

&lt;211&gt; 1353

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3655

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&lt;210&gt; 3656

&lt;211&gt; 1461

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3656

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&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3657

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&lt;210&gt; 3658

&lt;211&gt; 1413

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3658

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<210> 3659

<211> 1131

<212> DNA

<213> B.fragilis

<400> 3659

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<210> 3660

<211> 1242

<212> DNA

<213> B.fragilis

<400> 3660

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&lt;210&gt; 3661

&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3661

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&lt;210&gt; 3662

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3662

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&lt;210&gt; 3663

&lt;211&gt; 345

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3663

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&lt;210&gt; 3664

&lt;211&gt; 1566

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3664

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&lt;211&gt; 312

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3665

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&lt;210&gt; 3666

&lt;211&gt; 1275

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3666

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<210> 3667

<211> 258

<212> DNA

<213> B.fragilis

<400> 3667

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tctatcctga aagacggagg tgggctcgca gctttggcac cttactacat cggacaggaa 180
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<210> 3668

<211> 1131

<212> DNA

<213> B.fragilis

<400> 3668

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 aatataatac tgttattttt aggatttact atcattttatt cttgttcacg gcatcagcaa 180  
 ataaacagaa ccattctttct agcagattcc attatggaat atcaaccgga tagtgcgttt 240  
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 ttgattgcta taaatcatta tgatcaacta tcaaaagata acaataaagc aaaagcatal 420  
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<212> DNA  
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<213> B.fragilis

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&lt;210&gt; 3676

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3676

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&lt;210&gt; 3677

&lt;211&gt; 3084

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3677

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&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3678

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&lt;210&gt; 3679

&lt;211&gt; 1029

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3679

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&lt;210&gt; 3680

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3680

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&lt;210&gt; 3681

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3681

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&lt;210&gt; 3682

&lt;211&gt; 750

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3682

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&lt;210&gt; 3683

&lt;211&gt; 495

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3683

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&lt;210&gt; 3684

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3684

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&lt;210&gt; 3685

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3685

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<400> 3689

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3690

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&lt;210&gt; 3691

&lt;211&gt; 1344

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3691

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aaaaagccgg aaaacagaga gtatg 1344

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&lt;210&gt; 3692

&lt;211&gt; 1215

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3692

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ctcatagtcg tcttattatg tagtaactctc tttgtcgaag cacaaaagag cgatgtaatt 120

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&lt;210&gt; 3693

&lt;211&gt; 1485

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3693

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tcatatctac	agatgggtatt	gggatttgta	accggacaaa	ttattatcgc	ctttgttctg	300
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&lt;210&gt; 3694

&lt;211&gt; 567

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3694

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cttaaaaaaa	ttgcàctttt	aatgatgtta	atactcccga	tgggcgtatt	tgcacaaaat	120
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atggcacgta	ctccgatacc	ttacgtaaac	gaagctcaaa	gcattaacct	gactccgaaa	540
gtaaaaaccc	aattgggcat	caaataa				567

&lt;210&gt; 3695

&lt;211&gt; 1566

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3695

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cattgcaaag	aatacggttt	tgtgttcccc	tcaagcgata	tctacgacgg	actgggcgcg	120
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tctgaattga	ataatatcat	tgccgaccgg	gtaagtatta	cctcgttggt	gaaaacaatc	1560
caataa						1566

&lt;210&gt; 3696

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3696

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&lt;210&gt; 3697

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3697

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&lt;210&gt; 3698

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3698

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gctgtgttcg	atgggtgagaa	cctgtttctt	gagaactata	ttgaaggaga	aacccaactt	780
taa						783

&lt;210&gt; 3699

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3699

gcgatgcact	cctgtctgat	ttgtatagga	agcaattata	accggaagga	gaatctcctt	60
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gaattgaagt ag 372

<210> 3700

<211> 1011

<212> DNA

<213> B.fragilis

<400> 3700

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<210> 3701

<211> 213

<212> DNA

<213> B.fragilis

<400> 3701

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gtgggtgtaa	ataccccgct	gacactgata	aaagttgctg	catccacatt	ggatgtaccc	180
gaaatatact	ggaatgcatt	ttccgtagca	taa			213

<210> 3702

<211> 1053

<212> DNA

<213> B.fragilis

<400> 3702

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atagatgcaa	tgaatatata	cttaccocaag	gggaataatc	ttgcaaatgc	gctgatggat	180
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ttaaagaagt attcaacttt gatttcgcag agtgggtgagg ttcagcgaat ccatttcttt 1020
aaccggcaac aagaactggt gaaaagttta tga 1053

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<210> 3703
<211> 210
<212> DNA
<213> B.fragilis

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<400> 3703
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aaatctgtgt ctttttttac ttacattttc acgtatatat tctataatcc taaaggtaag 120
ctagttaagt accaaataaa aagtaacatt gtccagccta tcagtatata taccgaatat 180
cgccaagtgt attttaagag tgaaccataa 210

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<210> 3704
<211> 598
<212> DNA
<213> B.fragilis

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<220>
<221> unsure
<222> (22), (31)
<223> Identity of nucleotide sequences at the above locations are unknown.

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<400> 3704
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ggaggatata gtgaaagggc tgcattcggg ggcggatgac tatttggtga aaccattcag 240
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tacgaatacc aatgtggtag atgtttatgt gaactatctt cgtggtaaaa tagataagga 540
gcatgacaag aaattgattc atacggtggt aggttcggga tatatcatgt atgcttaa 598

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<210> 3705
<211> 273
<212> DNA
<213> B.fragilis

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<400> 3705
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gatcccatat ccggaaattt ggcttccaac caacagatgt gtttaaatat aggacgaaaa 180
gaatgttttt gctcacgttc tttgtcatct gaaagatttt ccataacttg caacttttat 240
cggttaagct tgtacgatgt cccattatgt taa 273

```

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<210> 3706
<211> 183
<212> DNA
<213> B.fragilis

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ttgcgaaaat cagaatcaag tggccaacac acagaatgta ttactcgacc tatggggaga 180
tga 183

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<210> 3707  
 <211> 711  
 <212> DNA  
 <213> B.fragilis

<400> 3707  
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 atgactcaag acggcaagtc ctcttcacgg gcactctcca tctgaacac tctcggattc 180  
 tcggacaccg tacagtgttt ccggcttcct atggacaagg acaggacact ggcattaaga 240  
 tcttatgaag ctgtatatga aagcagcaaa atactccgtg cagagggaca aaacgtcgtg 300  
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 caacaagacg acatccctgt tgaacagatt gccgggtatc ccgcttttat tgcttccgga 420  
 gcgatggcgg gcctgcacat cgtcagtcag gaagagcggc tgatcgtgat accgggtcac 480  
 gtcaccgcca aagaactgga cgactacctg aaacatcaga cggtagtggg cataatgaag 540  
 ctatcgcaat gtatagacga ggtacaccaa tgtataatta accatccgga ataccaatac 600  
 cactactttg aaaaatgtagg gaccgagaag gaatactact cttgctccac cgaagaactt 660  
 cgggaaaaaa gatatcctta tttctcggta atgattatca gattcggata a 711

<210> 3708  
 <211> 183  
 <212> DNA  
 <213> B.fragilis

<400> 3708  
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 gtgggtattgg tattccggat ggtaattat acattgggtg acctcgtcta tacattgcga 180  
 tag 183

<210> 3709  
 <211> 1479  
 <212> DNA  
 <213> B.fragilis

<400> 3709  
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 ttaaggggtgc aactaccaca gacaggagca gagattcgtg tacaaagtct gctgagtcg 180  
 gagggtattc gctggatgtt gcgaaatgca attactaatt tcacaggatt tgcaccattg 240  
 ggaatgggtgc tgatagcaat gtttgggtatc ggggtagctc aacattccgg ctttattgat 300  
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&lt;210&gt; 3710

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3710

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gttggtgcat	ttttctgtat	aggttgtctg	gtcggaatct	tcaatgattt	ccagtttgac	180
atgcacaatc	ttttctatgta	catactttat	gcgttgatgt	tgcaggttgg	catcagtatc	240
ggaagcaata	agaatctgaa	atctctgata	aaaagcctac	gtcccaatat	gcttttagtg	300
ccgatagcta	ccattgtcgg	aactcttctt	ttttcagctt	ttgccagttt	attgctgagt	360
cagtggagtg	tattcgattg	tatggcagtg	ggaagcggat	ttgcatatta	ttccctttca	420
tctattttga	ttactcaatt	caaggaggct	tctgtaggat	tacagttggc	aacggaactt	480
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gatgtattgt	tgccgtccat	tactcactat	tcggggaagg	acatgatacc	tgttgccatc	660
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tag						723

&lt;210&gt; 3711

&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3711

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gtaatcagat	ccggttcgcc	ggggcctaaa	gatacgaaac	gtatgggatg	tgtagttatc	120
atttgttatc	ggtttatcat	cttaatgttc	tgcaaaaagt	aggaaaatat	ctctatgaaa	180
caagaattat	taagtatctt	tgaccgctgt	aatttgaatt	aa		222

&lt;210&gt; 3712

&lt;211&gt; 492

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3712

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gaagtagtag	aaaaaaaaga	agtgcgaatg	cctgacgagt	taaaagctat	cgtaaaatgt	360
gctaatacca	aatgtatcac	gaataatgaa	ccgatggcta	ctttattttca	tgtgatcgac	420
aaagacaatt	gtgttataaa	atgtcattac	tgcgagaaag	aacaaaaaag	agaagatatt	480
acaatcattt	ag					492

&lt;210&gt; 3713

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3713

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aagtttgaag	aaatgaaact	aaccccgggc	aaatgttctg	tagtggatgc	acctctcatt	360
gaagaatctc	ccctttgtat	tgaatgccgt	gtgaaagaaa	tcgtatctct	gggatcacat	420
gacatgttta	tttctgacgt	agtaaacatc	cgtgcagatg	atcgatcatc	aaaccgggaa	480
accggaaaagt	tggaactggc	agaagcaaat	ccgcttgtag	atgtacacgg	aggatattat	540
aatttaggag	aaaagatagg	aaaattcggt	tggtcagtag	aaaagaaaac	aaagtga	597

&lt;210&gt; 3714

&lt;211&gt; 2049

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3714

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gagaatctgc	aaacacaaca	acaatattac	aaagatcact	atcaaacaca	acgtcctttt	780
tataatatgg	cgatacacga	attacgcttt	tatacatctc	tattgactaa	tgccatttcg	840
gaggctcccg	aaaaaatgga	ttattactgg	caacaaatag	ttaaattgaa	caaaaagcta	900
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gttcaatga						2049

&lt;210&gt; 3715

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3715

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aatggctggg	agatagttaa	tgaagaaata	tga			933

&lt;210&gt; 3716

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3716

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&lt;210&gt; 3717

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3717

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aattacagtg	caaaggtaat	acttttgcgc	atattttcca	aataa		285

&lt;210&gt; 3718

&lt;211&gt; 1167

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3718

attaaaagac	aaataccgat	gaaacaattc	ctgatcggat	gcgcactgct	ggcctgtatc	60
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cctgtctatt	acgaacgact	caattaa				1167

&lt;210&gt; 3719

&lt;211&gt; 2370

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3719

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aatcgtgtat	acacctctta	taatgaactt	tcaccaaca	ttgtcaatgc	attgatcgcc	300
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aacatttata	cggatggact	gaaaaattat	acaactatca	actcacacat	gcagcgctat	1080
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&lt;210&gt; 3720

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3720

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tga						183

&lt;210&gt; 3721

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3721

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&lt;210&gt; 3722

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3722

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&lt;210&gt; 3723

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3723

aaaaacaaaa	aatgagtag	aggattacga	aacaacaatc	ccggtaatat	tagacatgac	60
------------	-----------	------------	------------	------------	------------	----

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&lt;210&gt; 3724

&lt;211&gt; 780

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3724

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&lt;210&gt; 3725

&lt;211&gt; 4491

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3725

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&lt;210&gt; 3726

&lt;211&gt; 990

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3726

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&lt;210&gt; 3727

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3727

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&lt;210&gt; 3728

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3728

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&lt;210&gt; 3729

&lt;211&gt; 1035

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3729

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gaagccgtaa	cgctgaacag	cattgaagaa	ctgttggaga	gattgcaggc	cggaagtgcc	1020
gaaagagccg	tttaa					1035

&lt;210&gt; 3730

&lt;211&gt; 2178

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3730

accctaata	aaaaattaat	ggtaattctg	ataaccggcc	ttttatatat	gtcgtgtacc	60
gacagtatgg	aggtgtccgg	agatgcagat	agaaataata	cagaggatgt	atcggtaagg	120
ttagtataa	ccataccggc	ctccactaca	tatgcccgga	cgcgagggaac	atttgcgacg	180
accgatcatg	agtctaaaat	cagtgcagatt	caagtgttag	tatttgaaga	aggtaaatat	240
aagtaccgtg	taccgggcat	atccatcaac	aacacttcat	ccgctgcttc	ttttaagct	300
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accattaata	ataatgcgtc	caaactcata	gctaattgtt	ttgcctggat	agcagaaact	2160
gtactatatg	gagagtaa					2178

&lt;210&gt; 3731

&lt;211&gt; 1287

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3731

caaataatga	aaagagacga	tttaattttc	gatattatcg	aaaaagaaca	tcaacgtcag	60
ttgaaaggca	ttgagctgat	cgcacacaga	aatttcgtaa	gtgatcaggt	gatggaggca	120
atgggatctt	gtcttaccaa	taaataatgc	gaaggatata	cgggtaaacg	ctactatggt	180
ggctgtgaag	tggtagacca	aagcgaacia	attgccattg	accgcctgaa	agagattttt	240
ggtgcagaat	gggccaatgt	gcaacccac	tcaggagcac	aggctaatac	agccgtattt	300
ctggctgtac	tgaatccggg	agataaattc	atggggctga	atctggcaca	tggaggacac	360
ctttcacatg	gttcattagt	aaacacttcg	ggaatcattt	atactccctg	cgaatataat	420
ctgaaacagg	aaactgggag	cgtagattac	gatcaaatgg	aggaagtagc	attgcgtgaa	480
aagcccaaaa	tgatcattgg	aggcgggttc	gcctactctc	gtgaatggga	ttataaacgt	540
atgcgcgaaa	ttgccgacaa	ggtaggagca	attcttatga	tcgacatggc	acatcctgct	600
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cctaatacct	ggggaagaaa	aactccgaaa	ggagaaatta	agatgatgtc	tcaactactt	780
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tctaacgtag	aaaatgaaga	agtgatagca	caagtacgtg	cacgtgtcaa	caagacaatg	1260
gaaaaatatc	cgatcttcgc	atatttaa				1287

&lt;210&gt; 3732

&lt;211&gt; 1404

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3732

tatatccacc	taaataaaaa	gataatgaaa	acaagtaaaa	tctttatgac	tacactgggt	60
gcattgacta	tggctgcatg	cagcaatgac	aatgattggg	ttgaccagtc	cagcaatccg	120
gacgtaattg	ccccggatgc	atatgcctct	ttttccatca	acattcccca	cgcacgaag	180
acacgtgcag	tatctacaga	tccgggaatt	gcagcggaaa	acactgtgaa	atccttacat	240
gtgtttattt	atgacgcaga	atctcccaat	acacctaactg	tagctgaatt	tacgggtcgca	300
ggaggtacac	tcacacagaa	accagccggg	agttctacct	ggatgaccag	ccaaccgatc	360
agcactaaaa	agacggataa	atatattttt	gcgggagtaa	accttaatac	agaaaatagt	420
aactatatta	cttctaacgg	attgggtgca	ttcagctata	aagatttcac	acaagaaata	480
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gaagatttta	cgaggggaac	agatgccatc	aacgtttatg	cttcggctga	tgtgcccacc	840
tctttttctt	atgctacgga	aaatgcattc	cagtatattt	cgggtacatc	caatgtggat	900
gcagcaactt	ttatcagtgt	cagcggggta	tttacacca	ctaactcat	atctgcaaaa	960

aaaaatcccc	ctacagttgc	ggctgatttt	gaaatcatcg	tcaatccgaa	accggcggat	1020
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acggcagaaa	agtttgcgga	gctatgtgcc	gcgaatactc	cgcaaatgcc	atctatcaat	1140
gggatctacc	tattatcgga	gaatacgtat	agcaacggat	tgtgttacta	tcatattttt	1200
gttaacgggtg	acgcagtcac	accgcaggct	ccttataata	tctacagaaa	ccaatatttc	1260
aagatcaaca	tcaattctat	acaagcaccg	ggaaatcctt	cggacaattt	tgacagagga	1320
gaaccaatca	agcctaattc	atggattggg	gtcgacatcc	agattatccc	ttgggagggtg	1380
attgaagaag	atcacgattt	ataa				1404

&lt;210&gt; 3733

&lt;211&gt; 1407

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3733

caagaaattg	attcatcacg	tggtagggtc	gggatatatc	atgtatgctt	aactttaaca	60
agccaggcta	tgaaaatagg	acgtaaaatc	gcactctttt	atacgttggg	aacgggtactg	120
accaccatgg	cggttatcgg	agtgttctac	ctgttcagtt	caaggatatat	cgatggggttg	180
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tctacgagaa	tattgattcc	cttgccagcac	gtcctgtttac	agttgaaaca	gatccgcggc	660
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atgaaaatct	tttctgtcta	cagggggaag	gtcagcattc	gttccgaaga	agggaagggg	1380
acggaagtga	gagttgtctt	cgcataa				1407

&lt;210&gt; 3734

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3734

acataatacg	atatggaaaa	cagaagttta	gtaaccatag	cggagcattc	gagggagaaa	60
attctctata	tgctcgaaat	ggcgaaacaa	tttgaaaaga	atcccaaccg	ccggttattg	120
gaaggcaaaag	tagtcgctac	cctgttcttt	gaaccttcta	cgcgtaccgc	actaagtttc	180
gaaactgctg	ccaatcgact	aggcgcacgg	gtaatcggat	tttcggatcc	caaagccacc	240
agttcatcca	aggggggagac	tctgaaagat	accattatga	tggtgagtaa	ttacgctgat	300
gtgattgtta	tgagacatta	tctggaagga	gcagcacgct	atgcaagtga	agtggctccg	360
gtacctatcg	taaatgccgg	agacggagcc	aaccagcatc	cttcgcaaac	gatgctcgat	420
ctctattcta	tatatataaa	acaaggtaga	ctggagaatc	tgaatatcta	tttggtagggt	480
gatttgaaat	acggacgtac	cgtacactct	ttactgatgg	ctatgcgcca	ctttaaccgc	540
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gctgatatcc	tttacctgac	ccgcgtacaa	cgtgaacggt	tactgatctt	aatggaatat	720
gaacgggtaa	aaaacgtata	tatccttaaa	gcgaaaatgc	ttgaaaatac	tcgttctaac	780

cttcgtattc	ttcatccgtt	accacgtgtc	aatgaaatag	cttatgatgt	ggatgacagt	840
ccgaaagctt	attatitttca	acaagcacia	aatggactct	atgcccgtca	agctatactt	900
tgcgatgtat	taggaatcac	tttacaagat	attttataa			939

&lt;210&gt; 3735

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3735

aaaaagaaag	aaatgaaaaa	catattgatt	atcgggtgcca	atggatttac	ggggcgccgg	60
atactgaatg	acttatcggg	taaccctata	taccacgtca	caggatgctc	gctgagagat	120
gacattttgcc	ccggcaaaga	ttatcgcttc	gtacgtaccg	atatccggga	cgaaaatgaa	180
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gtaccggact	attgcgaaac	ccatcatgca	gaagctgaag	ctacaaatgt	tacagcagtc	300
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gaggaaatga	aagaggctac	tccccgcccg	cgtttcagcg	gattaagtat	cgaaaaggct	840
aaagccgaaa	tcgggtacac	cccgcgcaca	ttggaagaag	gtatggaggc	ttctttgttc	900
ttaa						903

&lt;210&gt; 3736

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3736

aatagtatgg	aagataagaa	atttaaagta	attattgtag	aagatgtaaa	actggaactg	60
aaaggaacag	aagaaatatt	tcgccatgaa	atacccaatg	ctgaggtaat	aggtacggca	120
atgactgaaa	atgaattctg	gcctttgatg	gaaacacaa	tacctgatat	ggtgttactg	180
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tataccaaag	aaatgatagc	taacctaaag	ggtatgcctt	tcggagtga	atcgttagag	600
aagcggcaga	atgatctgat	cggaagggtt	tttccacagg	gtgaacgggt	aggagtaa	660
gcaaccagac	tgggtggtccg	tgcattagaa	cttcgtataa	ttgatttgga	caatctggaa	720
gcagatgaag	agtaa					735

&lt;210&gt; 3737

&lt;211&gt; 546

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3737

catagaacgg	atatgaagaa	gctgatattc	tttttctgct	tggtactgag	tacggcctca	60
ctttctgccc	agtcggaaca	accttccgac	agcatccggc	atttgccttc	taccgtcaag	120
caatacggag	atttcctgat	cgatatggga	ttgtttatag	cagctcctcc	caaactgccg	180
aaatataaat	tcgaattacc	cgatgcaagc	aaagactata	accggatctt	cagtttgaat	240
ccggacgtca	taatgacaca	aggactatcc	aatgtgttca	ctccctccct	ttcatacggg	300
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aaactgaaaa	acggcatgcg	tctgaacacg	tatggggaat	ataatgccga	tggaacaaaa	420
gtccctaacc	ctgccgccat	gccatgggaa	aagaacaact	tcaaaggggc	tttcgaaatg	480
aaatcttccg	atgggaattt	cggtatccgc	attgaagtcc	agcaggggcg	caactatcca	540
tattaa						546

&lt;210&gt; 3738

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3738

ttaaggcttt	tcatccggac	ttgttgcccg	attatacgcc	tgtctattac	gaacgactca	60
attaatctgt	ccgatgaaac	gaccgacaat	acctcttatg	ctgcttatag	ccgcatctat	120
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atggaacata	ctttggggcg	gaacggatga				210

&lt;210&gt; 3739

&lt;211&gt; 228

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3739

ggtttaggtt	tattttctca	gatacaaaga	tggaactttt	caagaaagaa	tccgtggcgt	60
ttaatgaatg	gtgtaaacia	agatttttct	attatcacat	ctcacatgaa	tttattgtcc	120
aattatgcaa	caatcgga	tggtgtgtaa	gacgtgtatc	tattttcgaa	acttcgtcat	180
aaacttttca	ccagttcttg	ttgccgggta	aagaaatgga	ttcgctga		228

&lt;210&gt; 3740

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3740

caggaaccct	gtttttcgca	ccttcatacg	atctgcttgc	taaactcgga	gagtaatagt	60
tactctccat	atagtacagt	ttctgctatc	caggcaaaaa	cattagctat	gagtttggac	120
gcattattat	taatgggtccc	ggaattattg	tttatacggg	tatcggtagt	tgacgtcgaa	180
ctggacgccc	aactacctat	atccgtatca	ccccaataa			219

&lt;210&gt; 3741

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3741

gggagaagac	tgaacatctt	ctctttgaag	aagcccgtta	aattcaacaa	acagtttgta	60
acggatgccg	atgcctgggtg	gaaagctgat	aatgggaatt	tcggatatcat	cctccctccg	120
accggttctc	tcccggctgt	gggctcccc	atgtctcctt	ggcatggga	ttttcccgcc	180
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<212> DNA

<213> B.fragilis

<400> 3742

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<211> 1356

<212> DNA

<213> B.fragilis

<400> 3743

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<211> 2121

<212> DNA

<213> B.fragilis

<400> 3744

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<211> 483

<212> DNA

<213> B.fragilis

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<211> 702

<212> DNA

<213> B.fragilis

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<210> 3747

<211> 1611

<212> DNA

<213> B.fragilis

<400> 3747

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<211> 408

<212> DNA

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&lt;210&gt; 3749

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3749

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&lt;210&gt; 3750

&lt;211&gt; 1713

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3750

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 <213> B.fragilis

<400> 3751

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&lt;210&gt; 3752

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3752

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&lt;210&gt; 3753

&lt;211&gt; 1224

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3753

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&lt;210&gt; 3754

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3754

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&lt;210&gt; 3755

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3755

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&lt;210&gt; 3756

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3756

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&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3757

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 <213> B.fragilis

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<211> 867

<212> DNA

<213> B.fragilis

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<212> DNA

<213> B.fragilis

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&lt;210&gt; 3763

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3763

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&lt;210&gt; 3764

&lt;211&gt; 408

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3764

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&lt;210&gt; 3765

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3765

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&lt;210&gt; 3766

&lt;211&gt; 660

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3766

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&lt;210&gt; 3767

&lt;211&gt; 1083

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3767

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taa						1083

&lt;210&gt; 3768

&lt;211&gt; 237

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3768

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&lt;210&gt; 3769

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3769

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ggttatgggtg	attgggtattt	attgggctgt	atccttttgc	tgagtgggaat	atatattgtt	420
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 <212> DNA  
 <213> B.fragilis

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 <211> 1113  
 <212> DNA  
 <213> B.fragilis

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<210> 3772  
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 <212> DNA  
 <213> B.fragilis

<400> 3772

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<210> 3773
<211> 2742
<212> DNA
<213> B.fragilis
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<212> DNA  
<213> B.fragilis

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<212> DNA  
<213> B.fragilis

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<212> DNA  
<213> B.fragilis

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&lt;210&gt; 3777

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3777

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&lt;210&gt; 3778

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3778

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&lt;210&gt; 3779

&lt;211&gt; 1533

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3779

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&lt;210&gt; 3780

&lt;211&gt; 2406

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3780

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<211> 546

<212> DNA

<213> B.fragilis

<400> 3781

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<211> 2364

<212> DNA

<213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 3785

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3785

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&lt;210&gt; 3786

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3786

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&lt;210&gt; 3787

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3787

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acagagtcgg	tcaatgtaga	ggtactgggc	actcacttta	acgtagagtc	ctatccggac	480
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gatatctcca	taacagacac	tgctttgcag	aattaccgga	tcacggcacg	gttctccagt	780
gaagaaggtc	tcgaccagat	tctcgatctg	ctacatactg	ttggcaattt	caactattca	840
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&lt;210&gt; 3788

&lt;211&gt; 1110

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3788

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cgtatacccc	tcataccggaa	agacctatga				1110

&lt;210&gt; 3789

&lt;211&gt; 1398

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3789

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gcgctgggca	ccgaaaagat	tggaaaactc	ttgatgcagt	atgccattcc	ggctattatc	120
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ggctccgatg	ctatttcggg	gcttgctctg	acatttcgcg	tgatgaatct	tgccggcggt	240
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1398

&lt;210&gt; 3790

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3790

aatccttatc	tttgcagaaa	gataacgaat	tgcatgaata	tctatacaga	agatgaagca	60
ctaattgagt	tggttgaaga	gggttgcacc	aacgacaaaa	gatacaagag	acttcctaag	120
gatgtaatca	aaggttatat	aaaagcatat	aatcatttaa	aagcagccac	agaatagaa	180
gatttattca	gaatcggaag	tctgcattat	gaacgattga	aaggagactt	aaaagacttt	240
gaatcggtta	gatgtaccgg	acggtggaga	ttaatatattc	aaagctccac	aatagacggt	300
tcattgataa	ttactgaaat	agaattaata	gaaatatcca	accattatgg	cgactaa	357

&lt;210&gt; 3791

&lt;211&gt; 1599

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3791

cctggctgcc	aattttttctc	cgatctcttt	tccgccactg	cccaactgac	ggccgatatt	60
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&lt;210&gt; 3792

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3792

cctttcatat	aaagcactat	gggactcatt	tatttagtca	gaaagaaaaa	gttcagaaca	60
gccgaaggga	tcagagaact	ctattttgcc	atccagcgga	aacttcagaa	aagaggcggc	120
aagaacgaag	aagaccttgc	cgaaatcctt	tccgcaaaaca	gttcacgaag	caaaggggaa	180
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tccgtatcca	tcagaggggt	gggatcgttt	catgcctcca	ttacaagcaa	tggttcgag	300
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cgcaagttta	cccaacgtgt	cagccggatg	aaattctttc	gctaccact	atccaaatat	420
ttcccaaagg	acttggttacg	acccgaaaca	atcagggag	aagagactcg	ggaagaggaa	480
ccggagttca	ttcctgacga	tgacgaatga				510

&lt;210&gt; 3793

&lt;211&gt; 438

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3793

atataccggc	aacttacctt	tgtaccgaca	ttcaaact	ttaaagactat	gtttaaagcc	60
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gatgcccgc	agttaattaa	cgaacagatt	caatcggtag	ccggagaaaa	tccaccggag	420
ctgggcacgc	cgaaatga					438

&lt;210&gt; 3794

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3794

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ttaa						723

&lt;210&gt; 3795

&lt;211&gt; 2340

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3795

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&lt;210&gt; 3796

&lt;211&gt; 1743

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3796

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tag						1743

&lt;210&gt; 3797

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3797

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attgcgataa	acaaaagaat	tgcagattaa				210

&lt;210&gt; 3798

&lt;211&gt; 1434

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3798

aacactaata	agatgaaaaa	acttttatta	atcctcctac	tggactctgg	aggagaaatc	60
agcgcacaa	aagcagcaac	gattgtagtc	aagactaccc	cggacaacga	aattgcttat	120
tggcctacag	gcaaagaaca	cctgttctgc	attgctctgg	gaaccaaagc	acaagccggc	180
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acccaaggga	gtgattcttt	tacactctac	ctgacaccgg	gaagcaaaga	caccattacc	300
gtgaccaaag	ataccctgat	catcagcggg	acaaactcgg	cctataaccg	atgcctgaaa	360
acagtgaacg	attatcagaa	atacagcgat	aaactgggtg	acatgcagcc	gcacgaactg	420
cgaggaatca	cttcactgga	gcaatcacac	cggctggcag	acgccagaat	gcggcaggca	480
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agggcagagt	tccccaacag	tctttttttg	aacgtactcg	aaccgggcgt	taaagaaac	960
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gaaaaagcgc	acaacatgga	cgttgtatac	ctatacatct	cgatagaccg	tccggaggag	1200
cggaagaaat	gggaaaagac	catcgcatac	catcaactga	aagggttatca	tttattagta	1260
aacgaaaagt	taggaaaatc	gctatacacc	gaattgggaa	acgaacggca	aatactgagt	1320
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&lt;210&gt; 3799

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3799

aaaagtaata	aaaaaaatcc	atttacactg	agtagatttc	gaaactctgt	ttgtcttttt	60
atgaaaagaa	gaaaaatgga	gaaaaatcac	tatatacatt	atactgctgc	cgatttggtg	120
aatgacggga	ctttcctgga	ttcgatgcaa	caccctacgg	agcaaagtga	aaagttctgg	180
tcacaactgg	aaaaggaaaa	tgaaactttt	gccggagaat	tacgtatggc	ccgaagcttt	240
ttaatggctg	tggcggaaag	ccctcaaaaa	cggatgacag	acgatgaagt	ggggacactt	300



gcaaaaccgg	tttggggcgg	tagtgtggga	tatgggttacg	atagtctgtt	cgggtccgctc	2160
gaggcttctt	tgggatactc	cagcagatct	cacaaggtgg	gatttttatgt	aaatctggga	2220
tatgtctttt	ga					2232

&lt;210&gt; 3801

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3801

aagccgtgca	atatgtataa	tgatgaactt	attgaaagta	gtaagataaa	atggcagtcg	60
tttctgaaag	gagatgacga	tgcctatgca	tggctatatt	cccgggtatgt	tcagcaactc	120
tatcagtacg	gatgccgttt	tacgacggat	acagagatgg	tgaaagattg	tgttcaagat	180
gtttttgtga	atgtttatag	gcagaaggat	aggtactctt	ctcctccgga	taatgttaaa	240
atctacttaa	tgtcttcatt	aagaaattct	atttttaatg	ttttcaataa	aggggaatttg	300
catgacactt	atatctccaa	tatcaattat	gaattcgatt	tgtcggttga	agaaaaactg	360
attgagacag	aagatgaaac	ctctcagaag	catactgttg	ctcatttgct	aaatacactc	420
tctcccagac	agcgagagat	tatttactat	cgtttttttg	aaggattaga	ttacagtgcc	480
atthgtgaat	tgatggggct	taattatcag	tcagcctata	atthacttca	gcgttctctc	540
tccagattac	gtgaaatgta	tggtatatta	ccattctttt	ttctatttta	a	591

&lt;210&gt; 3802

&lt;211&gt; 1314

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3802

aaaactcaaa	acttaacact	aaatagtgag	ttttcaacaa	atthctgcta	catttgcaca	60
ttattttata	tggaactacg	tagaccacac	atattatata	tattgatttg	cttttgcta	120
ctcgthctc	catcaaactg	cagtagcgtc	tgggcaaaag	atthcgttgt	agttattgac	180
gccggacatg	gcggtcacga	tcccggagcc	atcggaaga	tatccaaaga	aaagaatatc	240
aatctgaaag	tagcattgaa	attgggtaat	ctgatcaaac	aaaactgcaa	tgatgtgaag	300
gtgggtctata	cccgtagcaa	agatgtatth	ataccacttg	accgccgtgc	agagattgcc	360
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ggatttaatc	ccaattccgc	tgaatcgtat	attatcttcg	aatttatgca	agacaaatat	600
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ggactataca	aatacactta	cggggcatcg	tccgattata	ataagggtatt	acggacacgc	1200
cgtaatacag	tcactccatt	atthaaaggat	gccttcatca	ttgcattccg	caacggagaa	1260
aagatgaata	tcaacgaggc	tatagccaat	tttaagaaaa	gaagaaataa	ataa	1314

&lt;210&gt; 3803

&lt;211&gt; 297

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3803

atcaaacaaa	aaggaggatt	aatcatggca	caacaagtgc	aatcagaaat	cagatattta	60
actccgcctt	cagtagacgt	taaaaagaaa	aaatactgcc	gtttcaaaaa	aagcggtatc	120
aagtatatcg	actacaaaga	tcctgaattc	ttgaagaaat	tcttgaatga	acaaggtaag	180



atccttccgc	gccgtatcac	cgggtacttct	ttgaagttcc	agcgtcgtat	tgcgcaggct	240
gtaaagagag	cacgtcactt	ggcgttactt	ccatttgtaa	ctgacatgat	gaaataa	297

&lt;210&gt; 3804

&lt;211&gt; 1344

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3804

ataaataaaa	aagatgtact	tatgaataga	tttaattaca	taggaatggt	agcttacgtc	60
gcactgtcta	tgagcagttg	tgatgatagt	tttgatgtaa	gttccaaagc	cgatgggggt	120
ttggctgttt	ctcaggaagg	gtttaatata	ttgcaatctt	ataatgtagg	cgaaaagtat	180
acagcagatt	tatggatata	acaggggggc	ttgaagtcaa	ctgccagtg	agtaagtttt	240
tctgtggaca	aagctttgct	cgattcaatg	aatattgccg	atggaaacct	atatgaactt	300
cttcctgctg	actgttatca	attaacaaaa	agttctgtcg	atattcccgc	aaacgaaagg	360
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gtaaggggta	cagtcgtcaa	ctga				1344

&lt;210&gt; 3805

&lt;211&gt; 1377

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3805

caactattga	acgtgaacga	aattcagaaa	tacattgcag	agaatgaatc	gacgatgatg	60
gaagacttgt	tcagcctcat	ccgtattccc	agtatcagtg	cattgccgga	acaccatgat	120
gatatgctgg	catgcgcaca	acgctggaca	caattgctac	tcaaggccgg	agcagacgaa	180
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ccaagcctgg	aagctttctg	tgaagagcat	aaagaattac	taaaagccga	tgttatcttg	540
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ggaagtatac	ctattatatc	aacttttcgaa	caggtgttag	gtataaaaaac	tgtattaatg	1260
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&lt;210&gt; 3806

&lt;211&gt; 900

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3806

caaaacatga	aactcattac	aaaagaagtc	aggataggaa	tagcaggtgt	tgcggccttg	60
tgcttactcg	tcttcgggat	caattatctg	aaaggcatca	acatgtttta	gcctgccagc	120
tattttttatg	taaaattcca	taatgtaaac	ggtctggcac	aatcgagtc	ggtattcgct	180
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ctggtacccg	aactgatggg	aggagtaaga	atgaatat	tattggccaa	caatcctcgc	360
gaacgctata	cagtaggcga	tacgattccg	ggaacgctaa	acaacggcat	gatggagaaa	420
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acaacagcca	atctcgaagt	taccagccgt	caattgaaag	tattgatgaa	caatgatatc	600
ccacaattaa	caggaaagct	caatactatc	ggtgataact	ttggtgtaat	cagcggcaat	660
ctgaaagaaa	ttgattatgc	tgccacattc	aaaaaaatag	acaccactct	tagcaacgta	720
aaaatgctta	cagaaaaact	taacagcaaa	gacaacactg	tcggattact	gttaaacgat	780
ccacaattat	acaataacct	gaaccaaaca	accattaatg	cagcaaactct	gcttgaagac	840
ctgaaggaac	atccgaaacg	atatgttcac	ttctctttgt	ttggtaagaa	agataagtag	900

&lt;210&gt; 3807

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3807

aaaaaaatga	aaaaaatatt	ttatccggtc	ctcttattgg	ttcttgccggc	atgcaaaaaac	60
cctgaacaga	catccgaaac	catagttccg	gctcctgcta	ttgccgacat	cccgaaccgat	120
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gcaacactcg	agaatcccga	cttcactcga	ctgcaacaaa	cctatctcga	cagccatgcc	360
caagcagaat	atctgcaggc	cgaatatgaa	cggcaaaaaa	ctctctcgac	cgaacaagcc	420
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&lt;210&gt; 3808

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3808

aacatgatga	acacaaagtc	ttttttcatg	gttgccattg	gcgtttttgt	tttggcatct	60
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aattcgccgg	caactttgtc	tattgctgat	gagatagagt	cagttgaata	tatccctttg	180
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aaatacatTT	atgtattggg	gggcaaggaa	gcccgatatg	tactgttcga	tcgtcaaggga	300

cacttttttgc	gtacatttcct	tcgccaaggc	caagggtccc	atgactttta	tggtatgata	360
ggtttttatac	aggctgatga	ggctgataat	cgttttctatg	ttatcggcaa	taagggttggc	420
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gaagagggtta	ttcggtgggct	caatatctgc	gatattaaaa	gattccctgc	taacggtgat	840
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gagaagtatt	atgtggcttc	gggtggacaaa	cacagtggag	aaactgttgt	ggagcagtg	960
gatatccctg	agacaagtgc	ttataacttg	gctgatata	atatgcagtt	aggtatggta	1020
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caggttgtta	caccttatga	gatagaaaca	tttaaagaac	aaactcaaat	tactgtacca	1140
caagaattgc	aaaaaagaaa	tgccaatgaa	aatccgattt	tcatcatata	taagataaaa	1200
taa						1203

&lt;210&gt; 3809

&lt;211&gt; 1053

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3809

aacgccgtga	atcatatgaa	gaaactcata	gataaattaa	gggaggagcg	caccctcacc	60
tccgaagagt	ttgcacacct	gttgtcgcac	tatgatgatg	aagccttggc	atacatcaat	120
cagcaggcac	gggaagtagc	gaccgcacac	ttcggacagg	gagtctacat	acgcggactg	180
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aatgatatgg	aggagatcat	tgccgaaatc	cgccggcgat	atcccgaatg	tgccatcacg	420
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cggtatctgt	tacgccacga	aacattcaac	agagggcatt	actactgtct	gcacccctat	540
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gccgaagcgg	ccgaaggact	ggccttattg	gaaaagcaac	tgacagcggt	cggatatcac	1020
atcgactaca	gccggggaga	ttataacaac	taa			1053

&lt;210&gt; 3810

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3810

ttgatccccga	agacgagtaa	gcacaaggcc	gcaacacctg	ctattcctat	cctgacttct	60
tttgtaaatga	gtttcatggt	ttgttatttta	gtctttttat	ttatttcttc	ttttcttaaa	120
attggctata	gcctcggtga	tattcatctt	ttctccggtg	cggaatgcaa	tgatgaaggc	180
atccttaaat	aa					192

&lt;210&gt; 3811

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3811

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aacgccccga aaagaaaaat gaataagata tctgtcgtta tattgaactg gaacgggttg 60
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<210> 3812

<211> 231

<212> DNA

<213> B.fragilis

<400> 3812

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gctgactcta tcgcagcagt agaagcagct gcagctgaag cagcagctca ggcagctgat 180
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<210> 3813

<211> 441

<212> DNA

<213> B.fragilis

<400> 3813

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gcgcaggatt tctcttatca aaagaatgca gaggaacggg aactgcaagt aaaaatcggt 180
gcggctgata aaacaagtga agacgggatt gtcttcatcg agtcgcccgc acggccgacg 240
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gaatacattc agcttatctg ccggcctcag aacggaaagt cggaaacgac caagatgtct 420
atccggctgg tgaaaaaata a 441

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<210> 3814

<211> 249

<212> DNA

<213> B.fragilis

<400> 3814

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tggggtaacc tgtaccgtac caaaaggctc acgtggatac ataaagtcac cacattatta 60
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ggattgcatg ccatcgggct ggaagctctc atcatcacgg cagctgccgt aaccggaagc 180
acactggctg cctggggact ttggtatctg ctccatacac gctatcagaa aaaggaggct 240
aaaccatga 249

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<210> 3815

<211> 714

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3815

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atcgggtgcgg	atgattatat	caccaaacct	ttcagtatgg	aagagcttac	tttcagaatc	360
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&lt;210&gt; 3816

&lt;211&gt; 1350

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3816

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gacgccgcgt	tggataataa	agtagtgaat	gttctttttg	gagattttta	tgaagagggt	1320
accgcactga	aaggaaactat	aacacaataa				1350

&lt;210&gt; 3817

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3817

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gtagaatcac	tatataataa	ctttgtgctc	tctgtgtatt	ttgtggcgcg	tttactttgt	180
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tgtaa						246

<210> 3818  
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 <212> DNA  
 <213> B.fragilis

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 attttcaacta tgttgcttct cactttttgt aagggtatctc cgcgtgactt aaaaccgaag 180  
 ccgttacact tatggccttt attgattcag atattcggat ctttgattgt ttatctgcta 240  
 ctttatcggt ttaataaaaat tgtggcagaa ggagcgatgg tttgtgttat ttgccccacg 300  
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 gagagtgaat aatgcagtaa taatgtaagc ggctaa 936

<210> 3819  
 <211> 480  
 <212> DNA  
 <213> B.fragilis

<400> 3819  
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 gacggacttg ggcggaatc cgatgaattt gctttcgttc tgtctctgtc ccgatgcttt 180  
 tgctatatcc tctccgtatg cttctgcggg gcaaccggag aaaaaaaagc accggtgcgg 240  
 ggttctgcac ataacaatat atgtgaggag gcaaaacata tagacatctt acccgaaaga 300  
 agtaagcatt ttccggaaat gcttacttct tttgcacaga atgtttgctt ctttttggga 360  
 aaatgcaccg tgttcaaccc gaaatacccc cttcttttgt tggaaaaacc tccgtcttgc 420  
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<210> 3820  
 <211> 1902  
 <212> DNA  
 <213> B.fragilis

<400> 3820  
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 aatttttcta cctgtcaggg acatgtagtg gagcttgccg atttggttgg agcttatttc 480  
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 aatgcgggtg cttatatctt tcaggaactg ggcataatgc tggcatgggg caatgaatat 720  
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&lt;210&gt; 3821

&lt;211&gt; 1431

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3821

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ttaactcagg	aagagatatg	ccgggaagtt	attgccctgc	aagatatggg	acacaaacgc	420
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&lt;210&gt; 3822

&lt;211&gt; 1350

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3822

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&lt;210&gt; 3823

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3823

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taa						183

&lt;210&gt; 3824

&lt;211&gt; 1329

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3824

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1329

&lt;210&gt; 3825

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3825

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&lt;210&gt; 3826

&lt;211&gt; 1776

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3826

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&lt;210&gt; 3827

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3827

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<210> 3828  
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 <212> DNA  
 <213> B.fragilis

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<210> 3829  
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 <212> DNA  
 <213> B.fragilis

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aatggcgctc	tatttcattc
tgggaggcag	aatcgagctc
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<210> 3830

<211> 936  
 <212> DNA  
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<400> 3830

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<210> 3831  
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 <213> B.fragilis

<400> 3831

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1902

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<211> 1065

<212> DNA

<213> B.fragilis

<400> 3832

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<211> 486

<212> DNA

<213> B.fragilis

<400> 3833

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<210> 3834

<211> 534

<212> DNA

<213> B.fragilis

<400> 3834

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 <212> DNA  
 <213> B.fragilis

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<210> 3836  
 <211> 2187  
 <212> DNA  
 <213> B.fragilis

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gggatggctg gcatataccc tggctaa

2187

&lt;210&gt; 3837

&lt;211&gt; 2154

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3837

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&lt;210&gt; 3838

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3838

cgacgcaccg	gcagtaggtt	attctaccgt	atatccgcta	tcgatgtttc	tccgtatcct	60
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gccagttacc	atgtttttat	ttacatagta	attggccatt	tctatatggt	aacagcttct	180
attacaaagc	cagtttcttc	accacaaatt	cttctataa			219

&lt;210&gt; 3839

&lt;211&gt; 606

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3839

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atatag						606

&lt;210&gt; 3840

&lt;211&gt; 2736

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3840

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&lt;210&gt; 3841

&lt;211&gt; 795

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3841

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aaaaaaggaa	tgtaa					795

&lt;210&gt; 3842

&lt;211&gt; 1179

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3842

aagataatta	ttatatthtgc	aataattata	aatataataa	ttttagttat	ggcgggttatt	60
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&lt;210&gt; 3843

&lt;211&gt; 1737



&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3843

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&lt;210&gt; 3844

&lt;211&gt; 3528

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3844

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&lt;213&gt; B.fragilis

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&lt;210&gt; 3852

&lt;211&gt; 2718

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3852

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<212> DNA
<213> B.fragilis
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&lt;210&gt; 3855

&lt;211&gt; 1158

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3855

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&lt;210&gt; 3856

&lt;211&gt; 468

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3856

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&lt;210&gt; 3857



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 <212> DNA  
 <213> B.fragilis

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 aaaaagacgt tgacagatgc tcagtacact aagtatacta caatattgaa catgactttg 360  
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 <212> DNA  
 <213> B.fragilis

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<210> 3860

<211> 522  
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 <212> DNA  
 <213> B.fragilis

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<210> 3862  
 <211> 465  
 <212> DNA  
 <213> B.fragilis

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 <223> Identity of nucleotide sequences at the above locations are unknown.

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 ggccgtgctt cgttcattat gaaatttgca agttacgaac tggttccgag tgatgtgcag 420  
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<210> 3863  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 3864

&lt;211&gt; 1467

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3864

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1467

&lt;210&gt; 3865

&lt;211&gt; 666

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3865

cctatgaacg	tacaaataga	agagagctgg	aaaactcatt	tagaaccaga	atttgagaag	60
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cctccgggaa	agttgatatt	caatgcattc	aatttatgtc	cgtttgataa	agtaaaagta	180
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catttggtac	tcagttcggc	acatccttct	cccctctctg	cctacaatgg	cttctttggg	600
aataagcatt	tcagtaaaac	aaacgaatac	ctgaaagccc	atggaaaaac	agaaataaac	660
tggttaa						666

&lt;210&gt; 3866

&lt;211&gt; 531

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3866

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&lt;210&gt; 3867

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3867

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gcctactact	atgtaaaacg	cgaagaatgg	tcgcaggaaa	tcgtactcga	tgtgttcctg	180
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agtgaagagt	tgtttgccat	ttatgtgaaa	gcactcgacc	gcttgcccca	acgttgccaga	420
gagggtattca	tccgcatccg	ggaagagaaag	caaagctatg	cacaggtagc	agaagaactg	480
ggtatcagca	ccaagaccgt	agacgctcaa	ctccagaagg	caaccatccg	gctgaaagaa	540
gcaatatcga	tggtgaataa	tgatcgataa				570

&lt;210&gt; 3868

&lt;211&gt; 540

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 3868  
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ccggaactga atctggatac tgtctttctg gaagaagccg ccatgctgca tgatattggt 180  
atcttctctga cacatgctcc gggatattcaa tgttttggga cggaaacctta catttgctcat 240  
ggatatctcg gagccgggct tgtccgtaag gaaggtttcc ctgcacacgc attagtctgt 300  
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ccccatcgcg aaatggtgcc ggtgagtatg gaagaacaag tgatttgctt tgccgacaag 420  
tttttttcga aaacctatct cgaccgtgag aaaactgtgg agggggctcg taagagcatc 480  
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<210> 3869

<211> 1128

<212> DNA

<213> B.fragilis

<400> 3869  
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cagctgaatc tttcttcgga gctgctcta cgccgtgtca cagccccact ctctgtactc 240  
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aaggacctgg gcgatgcaca agcgggaagta gtacactcac tcgctaaatg gaagcgctg 360  
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cgctcggacg aagaactggg caatctgcat tcactttatg tagaccagtg ggactgggaa 480  
cgggtaatta ctgccgaaga ccgtaatgcc gacttcttaa aagagatcgt aaaccgcatt 540  
tatgccgcta tgatccgtac ggaatatatg gtgtacgaaa tgtaccgca aatcaaacct 600  
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ttgtgcatgt tctacttacg caaagctcat atcggcgaga ttcaggcaag tatctggcca 1080  
gaagaaatgc gtcgtgaatg tacagccctt aatatacacc ttatttaa 1128

<210> 3870

<211> 636

<212> DNA

<213> B.fragilis

<400> 3870  
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agtcttatgg aaacatttat tgaaaagttc agaaacagct atcatctttc agaaaacgac 120  
acgcaaacc tgctcagcta tatggaggag atccgtttca aaaagaaaga agtcatcgtc 180  
catgaaggct ccaaaaacgg aaatctgtat ctgataaagc agggcatctg gcgtgcccat 240  
tatctgaaag atggagtggg cactaccatt tggtttgccg gtgcaggcga agctgccttt 300  
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atcagcgccg gaagcccaa agctaaagaa cgttatctga cccttatcaa agaacatccc 540  
gaactattac aaaatgtgcc tttaaagcat atagcctctt atttgtggat tacaccacag 600  
tcgctgagca gaatccggag agaaatgaaa atgtaa 636

<210> 3871

<211> 1560

<212> DNA

<213> B.fragilis

&lt;400&gt; 3871

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gtttttgccg	gagatgttgt	tttaaaagta	tttgaaggga	aaccacgtat	caattctcct	180
catatcacag	gtaattatcc	ttcaactcca	tttatctttt	atattccgac	ttccgggtcag	240
cgaccgatgc	agtggagtgc	ggaaaaactc	cccgaaggac	tggaaactgga	ttccaagact	300
ggaattatta	gtggagtgcg	gacttccaaa	ggagattata	ctgtaaccct	gaaggctgag	360
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gatatgttag	tggtcggaat	agatggaaag	agtatgagta	ttggttatga	gtcggaaagga	1140
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&lt;210&gt; 3872

&lt;211&gt; 504

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3872

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gaacgcacca	cgctatttta	tgccaactcg	gaaggacttc	atcgacactc	ctatcccgcc	300
gccatcgctg	cagtgaccga	gaaggacttt	atcgacactc	ctatcccgcc	ctgcgggtgct	360
tgtcgccagg	tgattctgga	aacagagaaa	cgatataaac	agcccatccg	tatattgctt	420
tatggcaaga	agtgtatcta	cgaagtacaa	agcatcggac	atttattacc	cctgtcattt	480
gacgcatacag	ccatggagga	ttga				504

&lt;210&gt; 3873

&lt;211&gt; 1281

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3873

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&lt;210&gt; 3874

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3874

aggcatcata	ccggatgccg	gacacaagat	ctttcatcacg	tttttaagtt	tagatgttgc	60
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gacgaagaag	ataaaatggt	aaaagagggtg	aggttaccaa	ttgggcaagt	gcaaacagat	180
atcccattaa	cctgtctatt	attcaaagag	tacgttccac	gcaatgatca	gcttaaaaac	240
cgatag						246

&lt;210&gt; 3875

&lt;211&gt; 990

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3875

ttagtaacaa	cacgcccga	ctctttatcc	tggacgagcc	taccaacaat	ctggatatac	60
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&lt;210&gt; 3876

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3876

tctttgcatc	agaaagttaa	acccataaaa	agaaatagca	tgaagagaaa	atttatcact	60
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&lt;210&gt; 3877

&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3877

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aaattcatct	gggtacgcaa	aggaagcatc	accctcgaga	tagaccatca	ggaagtata	180
ctggccgaga	acgaggatcat	ctcccccttc	aacctccagc	acctggaatt	tctctcgatc	240
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&lt;210&gt; 3878

&lt;211&gt; 1437

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3878

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&lt;210&gt; 3879

&lt;211&gt; 1404

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3879

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tcgttcgttt	caaaggatgt	agtgaagta	accctccccg	acgaagtgat	cgaacttcag	420
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cagcattata	ctttccttcg	cgatttcac	tttaccatc	cgagtatggg	cgagggactg	1380
aacgatttgt	tttcaataga	ttag				1404

&lt;210&gt; 3880

&lt;211&gt; 900

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3880

atgaatagca	aactcctcag	gctgattgcc	atagttacag	tccttgcctt	tgctgcagggt	60
gcccaggcgc	agcgcaggaa	ttcccgttac	gtagattata	taaataagta	tagtgccttg	120
gccgtgcagc	aaatgaaaga	gcataagata	cctgccagta	tcacattggc	tcagggattg	180
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&lt;210&gt; 3881

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3881

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ggagacgatt	cgacaacaga	aggtgaagcc	atcggttttc	tggaggttat	acttcgcaaa	660
gcgaccaaca	gtattgccct	ttgcggtgaa	gatcaggatg	tgatctacga	ccgtatttac	720
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cagatgacta	tcagtgactg	ggaagagaag	ctggggctgg	aagagttgac	gatcttcgaa	900
tag						903

&lt;210&gt; 3882

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3882

agtattacga	atatgaagaa	acttataaat	actgttttgt	tactatttct	gataggtatc	60
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&lt;210&gt; 3883

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3883

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&lt;210&gt; 3884

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3884

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&lt;210&gt; 3885

&lt;211&gt; 1596

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3885

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<210> 3886

<211> 339

<212> DNA

<213> B.fragilis

<400> 3886

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cgttggggta aggctgacgg tctggagggt gttccggaac tgatagttga acagaagttc 180
atgaaaatag ctctgatgg aaaatcttt gagatacttc cgttacccat ttaccaaagt 240
gataatgagc gtactttttac caagaaacat tattttattcc ctgtgccgca aggacaacgt 300
gatttgaatc caaatctgga tcagaacgag ggatggtag 339

```

<210> 3887

<211> 192

<212> DNA

<213> B.fragilis

<400> 3887

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ggtttgttca tagttcttct tttattaatt tcaactaaata atataataac agatgaagga 60
aaatatcttc aaatatcttc cttcatcatt tcaatcagta atccgaataa cctcaatcgt 120
tattcttatt tcacaaaatc cgtaatcttt attgtccact ctcttttcgt accgtcggca 180
gcagtcacct ga 192

```

<210> 3888

<211> 585

<212> DNA

<213> B.fragilis

<400> 3888

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tttgattttt ctttgggtta tgaaggattc actttgtccg gtttacttta tgggacaggt 180
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```

<210> 3889

<211> 480

<212> DNA

<213> B.fragilis

<400> 3889

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atgatcattg ccatcgtgta ttatattaaa atagctccta tctatccgga agtgaaccgt 180

```

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&lt;210&gt; 3890

&lt;211&gt; 466

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (10), (11), (12), (13), (14), (15), (16)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 3890

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&lt;210&gt; 3891

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3891

acaatacgtc	cgatactttt	gttatatttg	cataaactta	aaaaaagaga	cgacatgaag	60
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atcgaacccg	gaacacagtt	tgaagatatt	cctgatgatt	gggtatgccc	tctgtgtgga	180
gttggaanaag	aagatttcga	accgtataat	ggctaa			216

&lt;210&gt; 3892

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3892

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&lt;210&gt; 3893

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3893

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&lt;210&gt; 3894

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3894

tataaagaag	cctcaaagaa	ccagcgtcag	ggagagtata	tccatttgat	agcgtattac	60
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&lt;210&gt; 3895

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3895

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gatgaatga						789

&lt;210&gt; 3896

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3896

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tga						423

&lt;210&gt; 3897

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3897

ataataagtc	ataatatgaa	aagaagattg	aacatactat	gtttactggg	ttttctggta	60
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&lt;210&gt; 3898

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3898

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&lt;210&gt; 3899

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3899

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&lt;210&gt; 3900

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 <212> DNA  
 <213> B.fragilis

<400> 3900

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 <212> DNA  
 <213> B.fragilis

<400> 3901

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&lt;210&gt; 3902

&lt;211&gt; 567

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;210&gt; 3903

&lt;211&gt; 474

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;210&gt; 3904

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;210&gt; 3905

&lt;211&gt; 1839

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3905

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&lt;210&gt; 3906

&lt;211&gt; 1680

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3906

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&lt;210&gt; 3907

&lt;211&gt; 1002

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3907

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&lt;210&gt; 3908

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3908

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tttattcctt	cggagatgcc	ggtaggacaa	gagatcactc	ctgtactgcg	tgcagtaaaa	180
gagttgttgg	atacttatct	tgatttgcct	caggtggatc	gtaaccgtat	ctatgtggtc	240
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tgtaatcatg gaagctggaa tccggctttc aactatcccc gattcatgga gtgggtcttt 540
gctcagcgta agagataa 558

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&lt;210&gt; 3909

&lt;211&gt; 1581

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3909

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ctttgtcact gtttaaaacc aaatcgcattg aaaatatcga ctttaatcct gaccatcctc 60
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gtactcgaat tacatacata a 1581

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&lt;210&gt; 3910

&lt;211&gt; 1689

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3910

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agattgtga						1689

&lt;210&gt; 3911

&lt;211&gt; 1728

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3911

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&lt;210&gt; 3912

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3912

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tcgaaactcg	cattcaccac	agattacacg	aatgtatata	gatggatact	gttatctatc	120
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&lt;210&gt; 3913

&lt;211&gt; 1548

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3913

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&lt;210&gt; 3914

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3914

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```

<210> 3915  
 <211> 243  
 <212> DNA  
 <213> B.fragilis

```

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aaaacgggaa aggccaaaagc gattcgtttc tctacccttg aggcgatctg tagagtgcta 180
gattgcccagc cgggggatat tctggagtat caggtggatg aagaagatgg aggtacgtca 240
taa 243

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<210> 3916  
 <211> 1473  
 <212> DNA  
 <213> B.fragilis

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<400> 3916
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cgcattgtag atgccggcgg agaatatgtc cgtctcacta cacagggggg gaaagaggcc 240
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gacgaggaat atgccgccga actgcaaaag atacgtgacc gtttcgtccc cttcctgaat 480
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<210> 3917  
 <211> 675  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 3917

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&lt;210&gt; 3918

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3918

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&lt;210&gt; 3919

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3919

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&lt;210&gt; 3920

&lt;211&gt; 438

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3920

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&lt;210&gt; 3921

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3921

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&lt;210&gt; 3922

&lt;211&gt; 543

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3922

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taa						543

&lt;210&gt; 3923

&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3923

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&lt;210&gt; 3924

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3924

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&lt;210&gt; 3925

&lt;211&gt; 438

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3925

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&lt;210&gt; 3926

&lt;211&gt; 1698

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3926

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&lt;210&gt; 3927

&lt;211&gt; 1656

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 3927

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 <213> B.fragilis

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<213> B.fragilis

<400> 3931

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<210> 3932

<211> 1410

<212> DNA

<213> B.fragilis

<400> 3932

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<211> 2142

<212> DNA

<213> B.fragilis

<400> 3933

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&lt;211&gt; 1863

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3934

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&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3935

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&lt;210&gt; 3936

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3936

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&lt;210&gt; 3937

&lt;211&gt; 1176

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3937

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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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 tatccggagt cagacagttt attctga 207

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 <212> DNA  
 <213> B.fragilis

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 cagtttaccg atgttcatta tatctataat gatcctcggt cggatgtatc gatcgaacgt 180  
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 ctttatttga tcgactctca ttcttattca cagatcaagg gagtgaatgg atacgattac 540  
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 gagttggatg aaaatgcaaa tagtttccgt acgtggatag gcctgaagga aggggtcgta 960



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999

<210> 3942

<211> 774

<212> DNA

<213> B.fragilis

<400> 3942

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gatacgggtg	ctgccatcag	cccgttcaat	gcttttatct	tgctgcaagg	gttggagact	360
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gtggccgatg	tgaagtcgct	ggtgattcat	ccggccacta	ccacacactc	gcagttgaat	660
gcgcaggagc	tggaggaaca	ggggattaaa	cccggaacgg	tcagactttc	gataggtagc	720
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<210> 3943

<211> 195

<212> DNA

<213> B.fragilis

<400> 3943

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aatcttaaaa	taaatgaaga	aatatttgca	accaacaaaa	actattttata	tttttgcgac	180
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<210> 3944

<211> 183

<212> DNA

<213> B.fragilis

<400> 3944

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<210> 3945

<211> 1338

<212> DNA

<213> B.fragilis

<400> 3945

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ctactcggcc	tgctcaccac	agtcagtgcg	caaccgacac	accgaataaa	gggaactgtg	180
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tctactaaag	atctcaccat	ccaaatagaa	acagaagaaa	acctgaccga	attagaagga	420
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&lt;210&gt; 3946

&lt;211&gt; 705

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3946

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&lt;210&gt; 3947

&lt;211&gt; 312

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3947

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gaaacgtttg	gtaagagcga	gtatagaaag	aatttgcctt	atatcatcgt	ccgtactaaa	180
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gttaatccat	ag					312

&lt;210&gt; 3948

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3948

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cccgttacgg	acacagaaag	aaagtatgtg	tacggaatac	ttggcattgc	caaattgttc	180
gggtgcagtc	tgccctaccgc	caaccgtata	aagaaaagcg	gaaagataga	caaagccatt	240
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aaaaccggag	gacgaaaata	a				321

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 <213> B.fragilis

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 caaaattga 1329

<210> 3950  
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 <212> DNA  
 <213> B.fragilis

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ataggagaaa	agacagaaga	tgaaaatagc	gcaacaactc	aaggagaaga	acattgccga	180
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&lt;210&gt; 3952

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3952

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&lt;210&gt; 3953

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3953

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gtcttttga						189

&lt;210&gt; 3954

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3954

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&lt;210&gt; 3955

&lt;211&gt; 2241

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3955

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&lt;211&gt; 3336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3956

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 <213> B.fragilis

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&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3962

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&lt;210&gt; 3963

&lt;211&gt; 1065

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3963

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3964

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&lt;211&gt; 1539

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3965

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&lt;210&gt; 3966

&lt;211&gt; 1581

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3966

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&lt;210&gt; 3967

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3967

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&lt;210&gt; 3968

&lt;211&gt; 2625

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3968

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<212> DNA  
<213> B.fragilis

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catttatattc tgatttctac tttttttgat ttcttggaat taatatttat ttgtattttt 180  
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<212> DNA  
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<212> DNA  
<213> B.fragilis

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gaaaagtata ttggaagta a 321

<210> 3973

<211> 561

<212> DNA

<213> B.fragilis

<400> 3973

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<211> 219

<212> DNA

<213> B.fragilis

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<211> 252

<212> DNA

<213> B.fragilis

<400> 3975

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ctgagaaact cacacctttt ggaggaattt ttccaatcat ggagaaattt gactccatgc 180  
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<210> 3976

<211> 198

<212> DNA

<213> B.fragilis

<400> 3976

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<210> 3977

<211> 933

<212> DNA

<213> B.fragilis

&lt;400&gt; 3977

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&lt;210&gt; 3978

&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3978

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&lt;210&gt; 3979

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3979

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&lt;210&gt; 3980

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3980

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&lt;210&gt; 3981

&lt;211&gt; 1599

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3981

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&lt;210&gt; 3982

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 3985

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3985

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&lt;210&gt; 3986

&lt;211&gt; 495

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3986

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&lt;210&gt; 3987

&lt;211&gt; 2310

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3987

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&lt;210&gt; 3988

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3988

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aaataa						906

&lt;210&gt; 3989

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3989

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&lt;210&gt; 3990

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3990

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&lt;210&gt; 3991

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3991

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&lt;210&gt; 3992

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3992

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&lt;210&gt; 3993

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3993

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&lt;210&gt; 3994

&lt;211&gt; 1125

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3994

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&lt;210&gt; 3995

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3995

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&lt;211&gt; 1041

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 3996

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 4001

&lt;211&gt; 1122

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4001

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&lt;211&gt; 1740

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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&lt;210&gt; 4003

&lt;211&gt; 1056

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4003

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&lt;210&gt; 4004

&lt;211&gt; 438

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4004

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&lt;210&gt; 4005

&lt;211&gt; 831

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4005

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&lt;210&gt; 4006

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4006

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&lt;210&gt; 4007

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4007

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&lt;210&gt; 4008

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4008

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<212> DNA
<213> B.fragilis
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<210> 4010
<211> 2418
<212> DNA
<213> B.fragilis
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&lt;210&gt; 4011

&lt;211&gt; 2775

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4011

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2775

&lt;210&gt; 4012

&lt;211&gt; 1035

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4012

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&lt;210&gt; 4013

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4013

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&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4014

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&lt;210&gt; 4015

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4015

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&lt;210&gt; 4016

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4016

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&lt;210&gt; 4017

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4017

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&lt;210&gt; 4018

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4018

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&lt;210&gt; 4019

&lt;211&gt; 1452

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4019

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tcaagcatal	atatcaaacc	ctgcagagtg	acatcaagcg	gggctcataa	ccggagaact	120
gccgagtaca	tgcgcaatat	cggcgagtc	agaatctaca	ttgtaccoga	actgacttcc	180
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&lt;210&gt; 4020

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4020

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cccttatcta	caatctaa					198

&lt;210&gt; 4021

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4021

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caggtacgga	agggtggagt	aggcacctat	cacatggaat	atgactatcc	gggcgacatc	360

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414

<210> 4022

<211> 984

<212> DNA

<213> B.fragilis

<400> 4022

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gggctcattc	cattatttac	aattccatta	atgggaaata	tggaaatgaa	tgaatccaac	180
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<210> 4023

<211> 636

<212> DNA

<213> B.fragilis

<400> 4023

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cgcgatttct	ttatctgggt	acttatcgct	accataccgg	cttttatcgt	gacttggtcg	600
gtacctttca	catatccgga	cggaaagaag	aaataa			636

<210> 4024

<211> 906

<212> DNA

<213> B.fragilis

<400> 4024

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gagtga						906

&lt;210&gt; 4025

&lt;211&gt; 1068

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4025

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&lt;210&gt; 4026

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4026

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attaagatta	tagtcgcttt	aaaatgtgca	atgactccat	tgacacgtga	cagactagtg	120
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cctcaaattc	cctatcgagc	atgtacatac	gtatgtaacc	ataccgatat	aaccatggct	240
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cgactcacga	ttatgatggg	tgaagttgta	tcactactga	aaaacaaaag	tgatgcagac	420
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atattaatta	aagatgtcaa	tcatggataa				510

&lt;210&gt; 4027

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4027

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&lt;210&gt; 4028

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4028

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&lt;210&gt; 4029

&lt;211&gt; 1338

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4029

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&lt;210&gt; 4030

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4030

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&lt;210&gt; 4031

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4031

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&lt;210&gt; 4032

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 <212> DNA  
 <213> B.fragilis

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 gccgagtata aggagttgaa cgaacagcaa gcggctgtta ttgaagataa tttagagaaa 180  
 agtaaaatta ttaataatgt ggtgacggaa tttaatcaga tagccggcaa tacacattct 240  
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 aagaacctgt tggcaacgat ggataaattg aaaagtatta ttgagcaaaa agagattgaa 420  
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 <212> DNA  
 <213> B.fragilis

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<210> 4034  
 <211> 1539  
 <212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4034

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&lt;210&gt; 4035

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4035

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&lt;210&gt; 4036

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4036

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&lt;210&gt; 4037

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4037

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&lt;210&gt; 4038

&lt;211&gt; 1269

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4038

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&lt;210&gt; 4039

&lt;211&gt; 1557

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4039

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ttaccttttc	ccttgctccga	aaaacaggga	aattcagcca	atgtttcggc	tgccgtttca	1500
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&lt;210&gt; 4040

&lt;211&gt; 447

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4040

atagaaaaga	tgaaaaccgt	aaaactgatt	acttgcgatg	atgcctttca	agctcatatt	60
atacaggagg	cacttgctaa	tgaaggatt	gattctctat	tacataatga	aaatatgtcg	120
accttggtgc	ggggttttgt	ccatgacatc	tcaagagtgg	atgtcttggt	ggcggattgc	180
gattatgaag	cagccataca	gttgctgaag	cagaatcaga	tgatacccga	agaacagaag	240
ttttgtcctt	tctgcggttc	ggaccggatt	aagttttgtc	ttaaaaagga	gcatcggtgtg	300
agggctgtca	gcgttgccat	tgtttctatg	ctggctactg	tcccgcccg	aggcaatcat	360
tgggaatata	tctgcgacca	ttgtgggaaa	gctttcgaaa	agccggttac	ggaattcaac	420
ccttctgctt	tggaagagaa	agattga				447

&lt;210&gt; 4041

&lt;211&gt; 1143

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4041

cgatacggga	tttacaggaa	ggagttatta	ataagaaaat	ctattgattt	gccgacactg	60
ccctgcccta	aaaaaagata	tacaatgaaa	gtaaaattat	tgtttttggg	cttcgttctg	120
tatgcgtgtg	gaactaaaac	ggtttcggaa	gagaaatctt	atgatcgaat	aaccatgacg	180
acttatgaaa	acaagtatga	tgaaaataat	cgtttgtcag	aggtacaatt	gaccagaaca	240
tctcatcata	ggtatgaaga	agattctgaa	acaattgatt	taattgatga	taaaagcacg	300
tattattata	cgtatatcaa	caacgaagag	tttacggtaa	gaagaaaagtc	aaagaggctg	360
ggaaatatca	agattatgag	atatgctccc	caaagggagg	aggtgttaac	attaaatgcc	420
caaggggata	ccattgatta	tttattgcag	aaatattacg	ataaaaagtaa	actcaaatta	480
gtgtatgtta	gaaatataaaa	caatgactat	gtactgcatg	aagacaacga	ctatgaggaa	540
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gggaaaaaaa	gaaccactta	cttctttcgg	ggactatctt	atgaggaagc	taaaaaaagg	660
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gatacgtcta	aacgtattgt	acttttctaaa	tatgataaat	ggggaaatat	ggttgagagg	1020
gtggaaaaga	caaagtattt	ttatttcgcaa	gacggagagg	cattgatcaa	tgaaatgctg	1080
caagtagtga	gagagaatga	gaagaagaaa	gaaagtagaa	agcgattgaa	aatatcaaaa	1140
taa						1143

&lt;210&gt; 4042

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4042

ttgataaaact	ttgataatgt	gtgttgctcc	ttaaaaagta	acgttcaagc	caacgggtcta	60
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gctcaagtag	cggaacaaat	aaaatcgatt	ttcccactat	tctacataca	aggtaggtcc	180
tcaagggtta	tcattgatct	acgttgctcc	tcgttcttta	ttatgcagac	tgatatgtta	240
tataactaaaa	aaagaaagtc	cttgaattat	tga			273

&lt;210&gt; 4043

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4043

ggtaaacacg	tgtttaggag	aatgaatgaa	ttagagctgt	cggaacgttg	caggcagggg	60
gataatcgtg	cccgcгааага	actttatgag	cagtacgcag	ggcgcgatgt	tggtgtctgt	120
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atttttcgact	ccttcgacaa	gtttacctgg	cgggggtgaag	gctctctgag	agcatggatg	240
gagcgtgtaa	tgggtgaatac	ggcttttacag	ttcttaagaa	agaacgacgt	gatgaaccag	300
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gcaataccac	agaaagtgt	gatgcaattt	attaatgaac	tccccgccgg	atatcgtaac	420
gtattcaatt	tatacacctt	tgaagataag	tgcacaaagg	aaatcgacac	gatgttgggg	480
attaatgaaa	aatcttctgc	ctcacagctt	tttcgcgcaa	aaagtgtatt	ggcaaagaaa	540
gtgaaagaat	ggttggtgac	caatgggtga				570

&lt;210&gt; 4044

&lt;211&gt; 726

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4044

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gaagccaaaag	gagggacacg	aaccgaccct	gaggaaatag	ttcgcatggc	cgtcagtcag	180
aaagctttct	tccgtaaaaa	gggaggtatc	accttttccg	gtggagagcc	tacttttcaa	240
gcaaaaatcgc	ttatcccaact	ttttaaaaga	ctaaagggaag	caggaatcca	tatttgcctt	300
gataccaatg	gcgggctatg	gaacaatgat	gtagagggaac	tattggaatt	gactgatctg	360
gttttatttag	atatcaaaga	atttaatccg	gaacatcatc	agtctttaac	cggagaagac	420
aacgagcaga	ccctgaaaac	cgcagcctgg	cttgaaacca	atcataaacc	attctggttg	480
cgatacgtat	tagtgccccg	ctacagtgc	ttcgaagacg	atatccggca	gctgggagag	540
catcttggaa	cgtaccagat	gattcagcgt	gtagaaatat	tgccttacca	caccttgggt	600
gttcacaaaat	atgaagcaat	gaacaaagaa	tatatgctga	aaggagtga	agagaatact	660
ccggagcaga	tagaaaaggc	tgaaaaacta	ttcaggcaat	atttccggac	cgtacaagtg	720
aattga						726

&lt;210&gt; 4045

&lt;211&gt; 1164

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4045

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aagcccataa	ataaggatgc	aagcaatcat	gttcttacia	acctagagaa	gttagagaaa	120
aagacagctg	aagaacgtct	aaaatttatg	gatgaagata	ggtatgaaga	aatgatcaca	180
aagtgggcat	atttttgttt	gaaggaagat	tcaaataaga	aatatgagga	tgtctttcga	240
tatggtggta	gtggcgatgg	tggtattgat	gttattgctt	tctatgattt	caaaaatcaa	300
atttgcgaca	tttatcaatg	taaacattat	aaagattcaa	taggttattc	cgatattaat	360
aaagaattat	gcaaattctt	gtataatata	ttcatcgatt	atataccatt	ccctaaaaca	420
tactatcttg	ttgcacccca	aaatataacg	ggtcctttag	gaagtttgtt	taatgatcat	480
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ccttcaactg	tagcagatta	tgaatctact	tatatcaacc	atcttggtga	tgcctattca	780
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aaagcacatt	tcacagcatc	aagagaacaa	ttctatttgg	ctgaatcagc	tgcaatgata	900
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attagctcaa	gagtattaaa	aggtatgtgt	tttcaattat	caaatgagaa	taaattgata	1140
tgggtaaaga	aaaaaataaa	atag				1164

&lt;210&gt; 4046

&lt;211&gt; 408

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



&lt;400&gt; 4046

acctttttcgg	ttttttatggg	ttattttttatt	aaaataggat	taggtatgac	tgaataaaaa	60
ataaaacgtg	tatatgagga	tccttctgat	acagatgggt	atcgtgtttt	agtagatcgc	120
ctttggccgc	gcggaatgaa	aaaagaacat	ttaaagtatg	actattgggc	aaaggaactg	180
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tttgacagat	tgtatcgaaa	agaacttgaa	acttctgata	aaacgtccga	gtttttatcc	300
cggatacgat	cctgtgaatc	agtgactcct	ttgtatgctt	cgaaggagcc	ggttttataat	360
catgcccgta	ttttacaagc	ttttctggag	gaacgtttga	aaaagtga		408

&lt;210&gt; 4047

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4047

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gccctgtttt	catgtgcggc	cttttatata	ggtgacatgg	agttcataaa	gaaactctct	120
ttcagtcoga	tgattgtcgg	aatcattttg	ggcatgttgt	atgctaacag	tctccgaaac	180
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ggcattatcc	tctatgggtt	taagttgact	tttcaggatg	tattggcggg	ggggctgccc	300
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ggtgcagcgg	ctatttttagg	ggccgaatcg	accattcaga	caaaaccata	taaaacggcg	480
gttgctgttt	ctactgtagt	tatttttcgga	actttgtcca	tgtttatcta	tcctatatta	540
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gcaatgactg	cattaggtgc	ggaaaccagt	atcgacaaat	ttaagaaagc	tggtgccaaag	960
ccatttgtac	ttgcttcttt	gctgtattta	tggctaattg	tcggaggata	tttttttgga	1020
aaactccttg	ctcctgtctt	aatgttaa				1047

&lt;210&gt; 4048

&lt;211&gt; 1056

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4048

tccccaaaat	tgaagtctat	ggcaggagaa	ataaacaaaac	tgattcccca	atatggagaa	60
ctcaatagaa	tatataatga	ttgggtaacc	aattatgctt	tttcttttga	caagcagaaa	120
ttcatcaccc	acttttacag	acagcacaaat	gatacaaaagg	ctttttgaagc	cgctatcctt	180
gaactggtac	ttgacaagca	gaaagaacaa	tacacattga	ttctcaatag	tctgaaaatc	240
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cgtgtgtgtt	ttcactacgc	agacaggcat	aattctgcaa	ttaaagacca	gttggagatt	360
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agctattaca	ggtcgaaata	caaagaacct	gtttccgatt	ttccgagtga	cagcaaccag	1020
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<210> 4049  
 <211> 192  
 <212> DNA  
 <213> B.fragilis

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 gttgtcgtca tttgtgaaat ttacaccaat ggctggttgt tttttaaaga gacaataaac 180  
 ggtaatgggt ga 192

<210> 4050  
 <211> 570  
 <212> DNA  
 <213> B.fragilis

<400> 4050  
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 gtgcgagctt gttccgggttc ggctgaaaag aaaaagagcg atatccgtgt tttgatgcag 120  
 gatagcaccg atgcacatgg agtgcagcgc atgacggccc gtaagagcga ggtagatatt 180  
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 cgtggaaacg aacgtgtttt cagccgtact tttaccaaaa agcagttcga gtctctgata 360  
 ggcgatgatt ttatggcgaa atctatcctg gaagggattg tttatgataa aacgactcct 420  
 gagggaaatag tctatgctgc cagtatctgc tatccgcaga cagacctgta tgtacctatc 480  
 tccatcacga tctcaccgga tggaaaaata agtatgaaga aagaagagct tctggaagag 540  
 gtgtacgatg aagatacatc cgcccgttaa 570

<210> 4051  
 <211> 1104  
 <212> DNA  
 <213> B.fragilis

<400> 4051  
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 gaacacctta cagtttgtaa cagtgtcggg gtttttgatg tgtcacacat gggcgaattt 180  
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 aatatagaga aggactggaa ctggtgcatt tctcacaata cggaagggtg tgagttggaa 420  
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 gctgagtttg gcataaaacc gatagggtt ggtgcgcgtg atactcttcg tcttgaaatg 720  
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 agtaagatcg gtacagaaat atgtattgat atgcgtggac gtaagttgaa agctgtagta 1080  
 gtaaaaccgc ctttccgtaa atag 1104

<210> 4052  
 <211> 222  
 <212> DNA  
 <213> B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (198), (199), (200), (201), (203), (204), (205), (206), (208), (213), (216)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4052

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actcgtgacg	cattagagaa	aatagggtgc	gagtattttt	tgccgaccca	atttgtcatt	120
cgtcaattga	aatatcgccg	gcgctcgtga	gaagttcctg	ccattcgtct	tcaccagggg	180
tgcaaaggcc	ctcaggggnn	ngnnnnntnca	aangngttc	ta		222

&lt;210&gt; 4053

&lt;211&gt; 1905

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4053

agatcgttat	cgtatagatt	attaatcatt	aatcacttaa	aaaagagaat	ggataaaaac	60
accatcacag	gcctcgTTTT	aatagggtata	ttactggtag	gattcagttt	tctgagccgt	120
cccagcgagg	agcaaatagc	cgtcaaaaag	cggtattatg	actctatagc	cgtgggtacag	180
cagcaagaag	aagcactgag	agccaaaacc	gaagctgcgc	tggctaacga	aaaagaagaa	240
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gccctggttg	aaaactacat	gggacaggat	aagaaaccgg	ttgtgttggt	caacggcagc	420
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ttgcgccgga	caactgacga	aaacaaattg	cttaccgaac	tggaagctaa	gaagaaagat	1800
ccgaaacaga	tgaagaagac	cggatttgcc	gcacgcctgg	aagctatgca	aaaacaacag	1860
gaacaattgg	caaaagaacg	ggctaataag	cagaataaga	aataa		1905

&lt;210&gt; 4054

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4054

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&lt;210&gt; 4055

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4055

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&lt;210&gt; 4056

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4056

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&lt;210&gt; 4057

&lt;211&gt; 1317

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4057

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&lt;210&gt; 4058

&lt;211&gt; 3102

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4058

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&lt;211&gt; 2214

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4059

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&lt;211&gt; 1671

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4060

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&lt;210&gt; 4061

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4061

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&lt;210&gt; 4062

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4062

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<211> 1431

<212> DNA

<213> B.fragilis

<400> 4063

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<210> 4064

<211> 339

<212> DNA

<213> B.fragilis

<400> 4064

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cggaacagat	tatacagact	gtggattaaa	ctcttttatg	gacctagtac	ccaagtctat	180
agaaatagta	aaagaataaa	tgtacatcaa	aaatataaaa	aggaaaataa	tgctcagata	240
atcatggaac	aacaacctca	actcaacgac	cacaataaac	aagaatatcc	cccgatgcac	300
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<210> 4065

<211> 1359

<212> DNA

<213> B.fragilis

<400> 4065

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ggccatacaa	taaccataga	ggaacttgta	aaccttattt	gcaaaggaca	ctgcatttgt	180
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gactttgcag	attgcgtaat	attggatatt	gacgatacat	ttctatccat	gaacgacttt	300
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ctgaagcggtt	tgtatgcaca	acgtgaagag	ttcagaaaag	gaaactggaa	agcattggcc	1500
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&lt;210&gt; 4068

&lt;211&gt; 1230

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4068

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tcccgtagtg	tgtccgggag	gcattttttt	tctcataaaa	atacggtttt	gtgcaacgaa	180
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&lt;210&gt; 4069

&lt;211&gt; 429

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4069

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aaaatgtag						429

&lt;210&gt; 4070

&lt;211&gt; 519

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4070

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actcgtgacg	cattagagaa	aatagggtgc	gagtatTTTT	tgccgaccca	atttgtcatt	120
cgtcaattga	aatatcgccg	gcgtcgtgta	gaagttcctg	ccattcgtaa	tcttattttt	180
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gttggcacca	aagtacaagt	catcaaggga	gatttttgtg	gagttgaagg	tgaactggcc	420
agtcttttcta	atcgtactta	tgtcactatc	cgaattcgtg	gcgtttttatc	tgccagtgtc	480
aaggttccta	aaagctacct	tcgcattctc	gcaccgtaa			519

&lt;210&gt; 4071

&lt;211&gt; 1104

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4071

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aagaaattca	aaaacagggt	atga				1104

&lt;210&gt; 4072

&lt;211&gt; 540

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (90), (130), (276), (291), (343)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4072

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ttggccacan	gtagagggac	aattggcgaa	agtgtcacgt	cgtttcgcct	atcagtggtta	180
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gaatatccgg	gtgtcgtgac	atggatttca	gatcgttcgg	agtttactcc	taaaacgatt	420
ctgacaaaag	aagaacgtgc	caatctggtg	tatgccgtta	agatagcggg	aaagaacgaa	480
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<210> 4073

<211> 354

<212> DNA

<213> B.fragilis

<400> 4073

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gagaaaaaag	aacgaacagt	tattcatctt	tatataaaaag	agaatgacac	tcaccactat	180
tttggctcaa	ttgccaatgt	atttgaatac	ttttcacccg	aagaacttgg	aataacttac	240
ggctcggtta	gaaatttatgg	acttttcta	gaaaattcat	accaaaatag	caaatgtatc	300
attaggaaag	gaatacttct	atcaaagtcg	ggaaaatagg	gtaaaaatag	atag	354

<210> 4074

<211> 282

<212> DNA

<213> B.fragilis

<400> 4074

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tttgaacgac	aaacagtcac	atgtttgccg	gcatataagc	acgcctttat	tcaacttgca	180
ctatcgagcc	gggggaaggc	ggttctcagt	tcgatctgta	ttgttctgag	agataatgca	240
cgttccaata	aaacagctga	attgttgtat	agattcattt	ga		282

<210> 4075

<211> 351

<212> DNA

<213> B.fragilis

<400> 4075

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gaagttatta	ctatccgtac	caatgcgcgc	aaaattgatg	ggattttcaa	agctgttttg	120
attgaacagt	taaaagagaa	attaaagagt	ggaaaaattg	tcaaatttac	ctatttgaaa	180
agtaacgggtg	aagttcgtgt	ggcatttggc	actacccatc	ccgattttgt	gaaggataag	240
gtttgtgggt	ggggcgcaag	tcgtgaaagt	tatgctacta	ctgcgtattt	cgacttagaa	300
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<210> 4076

<211> 1275

<212> DNA

<213> B.fragilis

<400> 4076

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&lt;210&gt; 4077

&lt;211&gt; 1458

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4077

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cagagtgaag	tgaaagcaga	tacactttcc	gagacgcttc	aacagtacct	tgctctgaaa	180
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&lt;210&gt; 4078

&lt;211&gt; 1344

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4078

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acggaacatc	tgtacggaat	ctgtatcctg	ttcctttcat	acctttatat	aaagaaagga	1320
aactggcaga	aaaagcagat	ttga				1344

&lt;210&gt; 4079

&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4079

cgaatattaa	atataaagtc	atattattatg	gtagcaaaac	aactttccat	ttttttggaa	60
aataaatcag	gccgactgac	agaggtgact	gaagtatttg	caaaggaagg	tattaatctt	120
tctgtctctt	gcattgctga	aaatgccgac	tttggtattc	tccgggggat	tgtttccgat	180
ccggataaag	cttataaagc	tttaaaagat	aatcattttg	cagtgaatgt	gacagaagtg	240
gtaggcata	actgtcctaa	cgtgcccggt	gcgttagcca	aagtattgca	atacctttcc	300
aatgaaggag	tttttattga	atatatgtat	tcatttgcca	ataataactc	tgcaaagtgt	360
attatccgtc	ctaattgat	ggaaaactgt	atccgtgtgt	tgacggaaaa	gaaagttgac	420
ttgttggcgg	caagcgactt	gtataaactg	tta			453

&lt;210&gt; 4080

&lt;211&gt; 1092

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4080

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gacgaagatg	cctatcgggt	gcttgataat	tatctgtgca	acctgagact	tcactttcgc	120
aaacaagaag	gagcagagga	gattgtaaat	gatatagaga	accgcatttc	cgagcttttt	180
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gcacgtatgg	gtaaaccgga	agacttcggc	gaggataccg	aagaagagga	gccccaaaag	300
acaaccggac	aaacgggggc	acagcaaggt	gcgaccattc	ggcgagatt	atatcgtaat	360
cctgacgata	agatactggg	tgggtgtaatc	agcgggttg	cagcttatct	taattgggat	420
gtcacgggtc	tccggcttat	catgtttgtg	gtacttatct	gcggatatgg	cgtgttgatt	480
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gacaggatga	ccaacgggtg	aaacaactac	gtaaactcag	gtaaaccccg	tagctttctg	660
cagaaagtta	gagacgcatt	gggtgtccatt	gccggattct	tactgaaagc	ttgcctgggtg	720
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gtgattgctg	ccattgcagt	agccatcgga	gggtggagccg	ctctttatca	gatgttgctt	840

tcgggtcgact	ggtcaccatt	gatctctact	tctccgatga	tgactatcgc	cgggagcatt	900
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atctttcaatt	ggctctcctat	gtcatccgga	ctgaaatggg	cactgttgat	tatatggata	1020
ctgggtgtcg	ttatTTTTgt	catcaacctc	tcttacctgg	gatggcctta	tcctttcctt	1080
tgggtcggat	ga					1092

&lt;210&gt; 4081

&lt;211&gt; 780

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4081

tacatgcaaa	agttactatt	tcttttttta	ctgccactga	taccattttc	gttcccgtgc	60
catgctcaaa	cgacttatcg	aatgggtgaca	agaaattact	ctccggttac	agattccttat	120
ccccaaagagg	tttctaattt	taaaaaggca	gacagtgtct	actatttcac	cgtaaaagta	180
tccaaagctt	atgacgatac	cttaaaaaaga	aaagtagcag	aaaaggttct	ttatagcccc	240
aatgacatct	atgacggaga	ggtcgcttct	tatctaaacc	ccaccgcact	cattgactat	300
tcttctccta	ctatcgaaact	tataacagac	tctttattca	aaggcgaaga	cagtataatg	360
acaattataa	gaaagggctt	ggagtttgta	tcccattata	taagttttga	tgattctcta	420
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catgctctggg	ccgaatgcta	cctcaaacaa	tacggatgga	tggcagtaga	ccccaatcc	660
ggaaaaagct	ggttaccaac	aactataatc	cgactttttg	ccggaacaga	ttatacagac	720
tgtggattaa	actcttttat	ggacctagta	cccaagtcta	tagaaatagt	aaaagaataa	780

&lt;210&gt; 4082

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4082

cttcgaatga	aaagggatca	actgaaatca	ctcttactgg	gagccatttt	gctggcagggc	60
attaccctgc	cggcaaaagc	ccagatagggc	gaacaacgac	ataatttttg	aatcggaatc	120
aatggcggtg	ctaattacag	cactgtttct	ttccagccca	ccatcaagca	aaacgggtctt	180
ttgggaatta	ccggaggtgt	cacagcacgc	tacattttccg	aaaaatactt	cgctatgatc	240
tgtggtgcac	aattggaact	taacttttct	caacgcggat	gggacgaaaa	attcgatccg	300
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aatcgggcac	ccaatgaaca	atatggtaaa	tgggttgaaa	ataagtttga	ttacggaatt	540
gtaggaggag	gaggcattga	agtcaggact	aaagccggtg	atttcctttt	ggaaggcaga	600
tattattttg	ggctggccga	cttctacaac	agtacaaaaa	aagattatct	ctcgcgctct	660
gccaatagta	ccattacagc	caaaatcact	tatctgtttg	atataaagaa	gtag	714

&lt;210&gt; 4083

&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4083

ttaaaagaga	atattatgag	cctaaagaac	agttatgtaa	caagtgatta	tattgaatgg	60
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cttattggct	gtggcagttt	ctttgggctg	cgcataatcg	atattccttac	tcttacatgg	180
tctatgtttg	tggatgatga	aaagttctgt	attatagaaa	agaaaacggg	taaaagaaga	240
gaaataaaaa	tcaattcaaa	ttttcaaaaa	catattgcag	actgttatat	ggctttaggt	300
gtgacagata	aaaatgagaa	gtgtttcctc	agtcgtaaaa	aaacagtgtg	tagtacgcaa	360
agaattaatg	tgttggtcaa	gtcaataaaa	agcaaatatg	gattgaaggt	ggaacatttt	420
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tcggaatttg	ctcttatcaa	actatcggaa	ttgtttaatc	acgctgatgt	aatgactaca	540
cggagatatt	taggggttacg	gacacaagaa	ttgttagaaa	cctatgatat	gctcagtttt	600
taa						603

&lt;210&gt; 4084

&lt;211&gt; 1641

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4084

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actattcatt	ttctatat	caataaaata	cagatggccg	aacaaagaag	aaatacccg	120
agtactgcc	agtctaaggt	gcaaccgta	aatgattacg	ggcgcatcca	accgcaagcg	180
ccggaactgg	aagaagccgt	gctcggggcc	ttgatgattg	aaaaagatgc	ctattcgctg	240
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gctattaccg	atcttgcgt	taatcaaaaa	ccggtagata	ttcttactgt	gaaggagcag	360
ctcagtaagc	gtggcgagct	ggaagaagtc	ggaggaccgt	tttatattac	tcaattgagc	420
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caacagctcg	attataaatt	gaaggatttg	ctggatgcac	cgctttatgt	tgatgatact	1020
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gacggacctc	tgctttttaa	a				1641

&lt;210&gt; 4085

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4085

aacgaagatg	atatgaaacg	gtataataaa	caacaagtga	tgaaagacgc	tcacagactt	60
tataagaatg	atttccaacg	tagaggacgt	tcttgggggtg	aatgcttgaa	agcggcttgg	120
agttgggaaa	aagatgctgt	tcgggttcgt	gaagagaaag	cggcaaggct	tgatgctatg	180
atagctgcaa	gttgggctgc	gcacaatgca	cacaagaatg	aaaagtccaa	taaaaaagag	240
tttgaagact	tatcttctga	tgcatgttct	tatgcgatgg	gttatggctg	tggaatgggt	300
ttctactgtg	gtgactaa					318

&lt;210&gt; 4086

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4086

caaagggttg	agcaaggcgt	tgctcctttt	tttatgcttt	caaatcaact	ttcacaccaa	60
------------	------------	------------	------------	------------	------------	----



atccttatct	ttgcacagca	tcttgaatat	agaaaaatga	aaaagatcgt	ccttatggga	120
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ggtgataacc	ggagaaatag	ttataacgaa	cgggaagaaa	tgaaaaaagc	acttatagca	420
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gctcaggatg	tgagtgcgta	tgccggcttt	aaaacgaatc	ttcgagaatt	attggcaaga	660
gtaaaagtct	ttgtggatat	agttaccaat	aaagctccca	aacatcttgg	agaaaaggta	720
aagatacccg	aataa					735

&lt;210&gt; 4087

&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4087

acgattatgg	aatatatatt	gatattttatc	tccgcaatct	ttgttaataa	catttgtgttg	60
tccgaatttc	tgggaatctg	tcctttcttg	ggtgtttcca	agaaagtga	tactgcattg	120
ggtatgagt	cagcggtagc	tttcgtgctt	accattgcta	cgatcgtaac	gttcctgac	180
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&lt;210&gt; 4088

&lt;211&gt; 2832

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4088

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aaaatcaatt	aa					2832

&lt;210&gt; 4089

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4089

ataagaaagg	agtataaaga	tatgaataac	tttaaagtat	taatgaatgg	gattgttaaa	60
gagaatccga	catttgtgct	cctgcttggg	atgtgtccta	cactcgggtac	gacttcctcg	120
gccattaatg	gtatgggcat	ggggcttgcc	actatgtttg	tattgatctg	ttccaatgta	180
gtgatttcat	tgataaagaa	cctgattccg	gacatggtgc	gtattccgtc	attcattgta	240
gtcattgcat	cttttgtgac	tttgcttcag	atggtaatgc	aagcatatgt	accgggactg	300
tacgctacat	tgggactttt	tattccattg	attggtgtga	actgcattgt	gttgggacgt	360
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ggattgggct	ttacaattgc	ccttacattg	ctgggagctg	ttcgtgagtt	cctgggtaca	480
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gctccgggtg	cgttttatcgc	attgggatat	ctgattgcgt	tgattaacag	ccttaagaaa	600
gcgaattaa						609

&lt;210&gt; 4090

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4090

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ctgaaagagg	cgaggctgat	tgtggtggag	gggactttat	atccattgct	gaccgggctg	180
aaaaatgatg	atttgcctcag	ttacgagtgg	gttgagtcaa	cacaaggacc	gccacgcaaa	240
tattacaaac	taaccgggaa	aggggagtct	tttcttggtg	aactggaggc	ttcctggaaa	300
gaactgaatg	aaaccgtgaa	tcatatagct	aatagagaat	ccatttaa		348

&lt;210&gt; 4091

&lt;211&gt; 2118

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4091

aacttgggac	ttggccttatt	tattttctata	tttgtttcca	tattaattga	tattgatgta	60
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agtagcgcaac	aacagacaac	tgatagacaa	aaagagggaat	tgttgaagtt	tgcagaagac	180
aaccattgga	acgttgcaga	agaggatatt	ttcatagatg	ttattagtgg	ttttaaaaag	240
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aaagatacta	ataaagatgt	aggtagtctt	attttattgc	atgtgcttgc	tgttatgtca	480
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ggatattcctt	caattcaa	atcagagata	ttgaatgctg	agaaagtacc	tgctccatac	720
gtaaggaaat	tgaatgagta	caagaagaat	agagaagcaa	aaggattaga	ggtgaaagag	780
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aaatctttac	aagagaatag	aattgattgg	aaagcacaca	atgaaaaggt	cttggaaacgt	2100
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&lt;210&gt; 4092

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4092

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gatatgatgg	acttgtgtgc	cgataccggt	aatgtttacg	aaacagtggc	tatcattggt	120
aagcgtgcca	atcagattag	tgtggaaata	aaaaatgacc	tttccaagaa	acttgcgagg	180
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tcacgttatt	acgagaaatt	gccgaaaccc	aatctgattg	ctgcgcagga	atatgtagaa	300
ggaaagatct	attatagaaa	ccggcggaag	gagaaagaaa	aattacagta	a	351

&lt;210&gt; 4093

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4093

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gacggttctg	ctgtcatcac	gggagtgtg	ctggcgttca	atctaccgtc	taacttacct	300
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gaagtgaagt	ctgctgccct	gattttgggt	cttctttata	tgttatggaa	gagaatcatt	660
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&lt;210&gt; 4094

&lt;211&gt; 2049

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4094

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ctgggagtaa	ccgggtccgg	aaagacattt	accatagcca	acgttattgc	caatatcaat	180
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2049

<211> 531

<213> B.f.

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<211> 828

<212> DNA

<213> B.f

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ctgcttttca	atgtttgggc	agtgaagagc	tatcggaaaa	gcgggttga		828

<211> 189

<212> DNA

<213> B.f

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aataaaaggct	ctgtccctac	cggcacagagc	ctttattttgt	tgacaacaga	agctctatatt	180
ggaaggtaa						189

<211> 1974

<212> DNA

<213> B.f

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aaagggggtg	cgcataattg	ggtaataaaa	gctcttgaag	aattaaatat	acctattgat	180

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&lt;210&gt; 4099

&lt;211&gt; 1629

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4099

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gataagtaa						1629

&lt;210&gt; 4100

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4100

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&lt;210&gt; 4101

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4101

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gactggaaga	taccacaaga	ccgggttata	ttgagtggta	aagactacac	acatcctctg	540
ttacataaca	tagaattaca	gtttgatata	aacaatacat	tatatgagta	a	591

&lt;210&gt; 4102

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4102

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&lt;210&gt; 4103

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 <213> B.fragilis

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 gacctgagta agcttcggga aaatgcaagc gaaatattac gtattgtcag aataggagat 420  
 tacgatgctt gcgcttgcac cgggcaacac gtagaaaaca catcagaaat aggtcttttt 480  
 aaaattatca gttacgatta tgccgacgga aaattacgcc tcagattcaa actgataaaa 540  
 tag 543

<210> 4104  
 <211> 897  
 <212> DNA  
 <213> B.fragilis

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 atctctgtac tcatgttggc ggggattcgt gaaatattga ttatttccac tccatacgat 180  
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 ggtggtgatt ctgtatgtct ggttcttggc gataatatct tttatggaca aagttttacc 360  
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 ttctatccta ataaagtggg ggaagtagcc aagagtattc agccttcccc tcgtggagaa 600  
 ttggaaatca cgacggtcaa tcaacggttc ctgtccgata gggaactgaa ggtccagctt 660  
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 acattttatcg aggttattga aaaacgtcag ggtttgaaag tggcctgttt ggaaggcata 780  
 gccctgaggc aaggctggat ttctcctgaa gagatgaaag cattggcagg tccgatgctg 840  
 aagaatcaat atggacaata tctgttgaaa gttatcgatg aattatccat aaagtag 897

<210> 4105  
 <211> 1095  
 <212> DNA  
 <213> B.fragilis

<400> 4105  
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 gagctgcaaa acagtggata cgaagtaatc atcattgata atttatctaa ttcaaagct 180  
 gatgtcgtag ataatatcga aaaggatatc ggtattcgtc ctgttttcga gaaactggat 240  
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 ggcattgtat tctcttcttc atgtactgta tatggtgaac cggatgaatt gcctgtaaca 480  
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 caaaatctta ttccgtatct aactcagact gctatcggga ttccgcaaaa attgagtgtc 720  
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&lt;210&gt; 4106

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4106

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&lt;210&gt; 4107

&lt;211&gt; 1797

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4107

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&lt;210&gt; 4108

&lt;211&gt; 1359

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4108

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&lt;210&gt; 4109

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4109

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<210> 4110

<211> 840

<212> DNA

<213> B.fragilis

<400> 4110

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<210> 4111

<211> 1647

<212> DNA

<213> B.fragilis

<400> 4111

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 <212> DNA  
 <213> B.fragilis

<400> 4112  
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 gaaacggtag acgaatatta tgctttcaaa aatgaatttc cggaaagtaa atatctgaag 780  
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<210> 4113  
 <211> 216  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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cgataa						486

&lt;210&gt; 4116

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4116

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&lt;210&gt; 4117

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4117

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tag						183

&lt;210&gt; 4118

&lt;211&gt; 3507

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4118

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&lt;210&gt; 4119

&lt;211&gt; 2433

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4119

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 <213> B.fragilis

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 ccgataggga gtgatcaggt aattaccggg ttgacaaaag acgaattttt cggatcgtac 660  
 aatggaaaat ataaaaagac cactttgcct tcgtacgaat atctgagatg gaaagaggga 720  
 ttatactgtt ttgatgtgc accctttaac agcctgctca acaaactgga aaaaattat 780  
 aatgtgaaca tcagcgtgag aaacctgaac atactcaact accgttgtag cggtaagttt 840  
 aaagaacagg atggcataga acatatcctg aaagttattc agaaagatca taagttcacc 900  
 tatagtatca acgaagagaa agacagcatc atcattgaat ag 942

<210> 4124  
 <211> 1125  
 <212> DNA



&lt;213&gt; B.fragilis

&lt;400&gt; 4124

actaagaata	tggaataaact	gaatataaac	tctactccgt	cttctgtgaa	gaatggacgg	60
ggggaaaggc	tccttggtat	caatcccgtt	tccacttcaa	caaagatcgc	tgtttatgaa	120
aatgaaactc	ctttgttggg	acgcaacatt	cgccatacgg	tggaagagtt	gtctgccttc	180
ccccgggtga	tcgatcagtt	cgaatttcgt	aaatcgcttg	ttctccgaga	ggtggaggta	240
aacgatattc	ctttccgggt	cgatgctgtc	attggacgcg	gaggcttggg	gaagcctatt	300
ccccggtggag	tttatgaggt	taacgaagcc	atgaagcggg	atacccttca	cgctatgcgt	360
acacatgcct	gcaatctggg	aggtttgata	gccgatgaat	tggccgcagc	tttacccgga	420
tggcgggctg	ttattgcaga	tccgggtgtg	gtggacgaac	tggaagaggt	tggccgtatt	480
accggttcgc	ctttgatgcc	gcgtatcact	atctggcatg	cactgaatca	gaaagctatt	540
gcccgtcggt	atgctgccga	acatggcaat	cgttatgaag	atcttgattt	gatcgtctgc	600
catttgaggag	gaggtatttc	tgttgcaagt	catcgtcatg	ggcgtgcagt	cgatgccaat	660
aatgcattgg	atggcgaagg	gcctttctca	cccgaagag	ccggaactct	ccccgccgga	720
caactgatag	acctttgttt	cagcgggaaa	ttcaccaaag	atgaattgaa	gaaacgaatt	780
tccgggtcgtg	ccgggcttac	cgcccatttg	ggaactactg	atattcctgc	cattattcag	840
tccattgagg	caggtgatga	ccatgcccg	ttggtgctcg	atgccatgat	ctacaatgtg	900
gccaaaagta	tcggtgctgc	ctctactgtt	ttatgtggaa	aggtagacgc	cattctgctg	960
accggaggca	ttgcctattc	cgattatgta	atttcccgtt	taagggaacg	tatctctttc	1020
cttgctcccg	ttttcgtgta	tccgggagaa	gatgagatgg	aggctttggc	attgaatgct	1080
ttgggggctt	taaggggaga	acttccggta	caggtctatc	agtga		1125

&lt;210&gt; 4125

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4125

aatctattca	tgccaagcaa	caacagcctt	cacaccatgg	acttattcag	ccagttcttt	60
caagaaaacc	agaagaagtt	tctgtcgttt	gcttattcat	acaccgaaa	taaagccgca	120
gccgaagata	ttctgatgga	agcaatggcc	agcctgtggg	agaatcgcaa	aaaatgggaa	180
aaagattcca	acctgcatgc	attgctgctt	actatcatca	aaaacaaatc	actcaattat	240
cttgaacacg	aacaagtgcg	tatgaaagct	gaagaggtga	tcaatacaca	taagcaacgt	300
gaactcgatc	tccgtatctc	caccttgga	gcctgcgaac	ctgcgacaat	tttcgatact	360
gagatacaac	gcctcgtata	taaaacactt	gaacagctgc	cggaaacaaag	ccgccacatt	420
ttcatattaa	gccgttatca	caatactccc	aataagaaga	tagccgaaca	actcggcatt	480
tctatcaaaa	gtgtagaatt	tcatatcacc	aaagcattga	aactggtgcg	tctcgaactc	540
aaagattatc	ttatatccct	acttttttaa				570

&lt;210&gt; 4126

&lt;211&gt; 1629

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4126

aagagattca	tcatgaaaaa	caatatcaaa	tatatagcag	gcatactctt	aggaggattg	60
atcggaattt	cagcttgtag	tgattctttt	gagtcgttca	acaccaacga	agcaggattc	120
gataatgata	gtaaaaaaca	ggatttcaat	tattatggca	tccctttggg	aatcattcag	180
caaggaatct	acttcaacta	cgactgggga	agcggcaaga	actggccttt	tcagaccatg	240
caaaacctgg	gggcagatct	attctcggga	tatgtgcata	acttcaatcc	cttcaacgaa	300
ggaaagaaca	acagcactta	ctacatgatg	gacggctgga	acggttctac	atgggataat	360
acctatggat	acattatgcc	ggaagtacag	aaatcagaga	ctattaatga	aaaagacaat	420
atagggttct	tcggtattac	caagatactg	aaagtggaa	taatgcaccg	cttatccgac	480
ctgtatggac	cgatcgtcta	tactcagttc	ggatcaaaaa	cgggttctac	acccgatacg	540
caacaagaag	catacaaagc	tttcttcaat	gacctggata	caggtattgc	caagatacgt	600
gaatatcaga	aagccaatcc	ggacattgag	agttttgcaa	aattcgatat	cctgatgccg	660
cagggaaaac	gcacattcag	cgaatggata	cggttcgcaa	attctctccg	tctgcgcctg	720
gctgtccgta	ttgccatggc	ggactctaag	ctggctgtgg	cagaagccca	aaaagcactt	780

acggatgaag	aaggattgct	ggaaggcaat	gatgaagtcg	tagccgtttc	tacctcatca	840
ggttatacta	atccttttcg	agaaatcaat	aaagcatggg	gcgaagtgtt	tatgaacgcc	900
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gcaaccggct	ctgatgcaac	aagccttctc	gactataaag	gtacttacia	aggtatccgc	1020
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cagacagacg	ccttactgat	gactcctgcc	gaagtatggg	tcctgcgtgc	cgaagcagct	1140
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cttgccatgt	tccttgaagg	aggagaagct	tgggcagaaac	aacgtcgtac	aggctatccg	1440
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cgtcgactga	acttcttcgt	aggtatcaaa	acgaccaatc	ccgagcaata	tacccaattg	1560
gtaaatgcat	tgggcggaat	cgacaactgc	ggcactcgcc	tgtggtggga	caccggaaga	1620
aattttctga						1629

&lt;210&gt; 4127

&lt;211&gt; 750

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4127

tttttttcaa	ttttggaacg	aagaacgcgg	caaaatgcct	tgactaatct	tgaaaagaag	60
tatatattgca	gcttgaaaaa	taacacgaat	attatgaaaa	aagtaacgct	agtagctctt	120
gtggctcttg	ctttaagttc	ttgtaattct	gaccctaaat	ttaatgtaaa	aggagatggt	180
tcgggagcag	atggaaaaat	gctttatctg	gaagcttccg	gacttgaagg	aattgtgcct	240
ttggattcta	taaaattgaa	aggagacggg	tcattcagtt	ttaaacaatt	gcgtcccgaa	300
tctcctgagt	tttatcgttt	acgggttgaa	gataaagtaa	ttaattttct	ggttgactca	360
acagaaactg	ttagcattca	agcaccttat	acagatttct	ctactgctta	tacagtggaa	420
ggatcggaga	actctgcaaa	aattaaagag	ctgactctga	aacaggttcg	tctgcaaaaa	480
gatgtagatg	cgtttggtaaa	ggctgcacag	gctcatcaat	tgggtaacga	tgtttttgaa	540
gacagcttgg	cgtactact	gaaaaattat	aaagatgatg	tgaaaatcaa	ttatatcttt	600
gcggcaccca	atactgcttc	tgcttatttt	gcactatttc	agaaattaaa	caattatatg	660
atctttgate	cgttgaataa	taaggatgat	attaaatggt	ttggtgcagt	ggctaccagt	720
ctgaacaata	cttatccgca	agtcttcacc				750

&lt;210&gt; 4128

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4128

gttgaagcaa	tatcgatatt	atccgcatta	ttagcaatta	gatttcctac	tgtcagtttg	60
ttgaagtgtg	ctgttattgt	ccgggaactt	gcgaaaggaa	ccatgcgtat	cgtagtagtc	120
tgggttagtgt	ttgggttgaa	tgaagctgtg	ttgctgggtat	tagcagccac	tgccgaactg	180
ccaattaccc	acgaggttga	attacctccc	tgttttacgt	ataccctgt	acaccgctg	240
atgggtattac	ttgtgaagcc	ggttacacta	atgcttattg	tcagtttaca	cagttttctgt	300
ttgaatgtta	ccggaagatt	gtaa				324

&lt;210&gt; 4129

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4129

aaatctaacg	ttatggaacc	tattagaaac	tttgaccaac	tgacagccca	tctcaaaacc	60
ttaaaccggc	ggaaacggat	tgccgttgtc	tgtgccaacg	atccgaatac	agaatatgcc	120
attgcccggtg	cactcgacga	agagattgcg	gaattcctga	tgattgggtga	ctcgccatc	180
ctgcaaaagt	atcccagctc	gcagaagtac	ccggaatatg	tgaagaccct	ccacattgaa	240

gatcccgatg	aggcagcgcg	tgaagctgtt	cgtattgttc	gggaaggggg	agccgatatt	300
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ggcttgctgc	ctaaggggaa	gattctgact	catttgcccg	taatgcagat	tccgacgtat	420
gataaattat	tggtcttctc	agatgccgct	gttattcctc	gtcccacttt	gcaacaacgc	480
attgagatga	tatgggatgc	catctgtact	tgccggcggt	ttgggataga	acaaccccg	540
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ttggatgtac	gcacctcttg	cgagcaggcc	agcgggggata	ttaaaggaat	tgatcgccc	720
atcaacggac	aggccgatgt	attgatattc	cccaatatcg	agtcaggcaa	tgctttctat	780
aaatctgttt	cggtgtttgc	caaagccgat	atggcagggt	tgctgcaagg	ccccatttgc	840
ccggtgggtg	taccgtcacg	cagtgattcc	ggactttcca	agtattatag	tattgcatg	900
gcgtgtctga	cagcttctac	ccggtcggca	gagagaggaa	gatgctccga	atga	954

&lt;210&gt; 4130

&lt;211&gt; 1647

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (354)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4130

tctgattatt	cattaaataa	atttagaatg	aacaaacttt	tgattatgcy	gacacacctc	60
ctatggatcg	gagtaatgac	ggcatccagc	ctttgggtga	gcggatgcac	gcaagaagaa	120
aagtatccat	tttttccgga	aaaagggtat	gattccggta	ctgtaatccc	tattaaaatc	180
agtatggctg	aaaaatggaga	gtacgattcc	tatactccgg	aaaacgacat	ggctcctcgt	240
tacaatgctc	ctctgattgc	cgaatgggca	ggagtacaaa	ctctaagccg	taccggtaca	300
aaagaatctc	cggaatataa	tggccccaga	atcgcatcta	tggaactgac	aganaataact	360
ccttccaccc	taactaccg	tgcaaacact	ctgtctacag	gtgtttactt	tcgtctgatc	420
gtgttccgaa	agtcagggaa	taactatgtg	ttccaatcgg	ctgcagacta	tacctcaaat	480
ggtgcttctt	cacctgtgct	gaagaaagga	aaattactca	cacgctcagg	aacgatccgg	540
gtcatcggat	actcattcaa	tacaactgcy	gcattggggg	atatccccgc	atcatataca	600
tataatacca	ccaagataga	tatccccaac	atgaataatg	actttatgac	ttatgattca	660
ggagacatag	ccaatgtgaa	cagtcttaat	tacaatcttc	cggtaacatt	caaacagaaa	720
ctgtgtaaac	tgacaataag	cattagtgtg	accggcttca	caagtaatac	catcagcggg	780
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acgatacgca	tgggttccttt	cgcaagttcc	cggacaataa	cagtacactt	caacaaactg	960
acagtaggaa	atctaattgc	taataatgcy	gataatatcg	atattgcttc	aactcagagt	1020
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ataaatgttc	cggcaggtag	catcaatctg	agcaatccga	aaaaagcatg	taccaatgat	1140
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ccgttaggtg	gctggcgtaa	taataactcg	ggaacaacgg	cagaagactg	gcctggaacg	1500
tttgggtcaat	attttacaga	tgaatcaatt	aatactaatt	attgttatag	attggatata	1560
tctcccggtg	aaggtaaaac	tgatgtcaat	agcacacaaa	agaaaatggc	atacacaact	1620
cgttgtgtca	aaggacctaa	actataa				1647

&lt;210&gt; 4131

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 4131

acactagatg	ccaattctta	ttctgcttgg	cgtattggag	gacggttgag	ctttaaaaaat	60
gaaacattag	ccatgatctt	gcctcggtta	gagaaatggg	acggacaaaa	gatcgtattgc	120
ccgcagaaaa	ctgctgatca	ttatcgcttt	acatttacgt	tgcggaatga	acctttggat	180
ctgatattaa	atataatgtc	gcatagtgcg	ccattaaatt	ataaattaat	aagtaatgac	240
tactatgttc	tcgaagaact	taagtag				267

&lt;210&gt; 4132

&lt;211&gt; 1164

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4132

ttaatcgat	ttatgagaaa	atgcaacatg	cgggtggttta	gtccgcaaag	aatgaaaaaag	60
catctggctt	ttgcttttagc	agttagcctg	gtggctatgg	tacctgtgag	tgctttcgct	120
caagtactaa	agatttcaat	gacaaagacc	aatgtatcta	ttgaaaatgt	acttcgtgaa	180
cttgaaaaac	aaagcgatta	cactttcttc	tacaatgaca	ttcaggtaaa	actgaacaag	240
aaagtatcca	tcaacgtatc	cgacgctccg	atcgaaaaccg	tattgaacga	agttttcaaa	300
aactcgggat	atacctacaa	gattgtagac	aatcagatcg	tagtgtctac	agcagctgca	360
gcagcgaaag	aggtacaggc	taccagcaa	cagaaacaaa	gaaaaatttc	gggagttgtg	420
aaagatgcaa	tgggagaagc	catcatcgga	gcatcggtta	tagaaaaagg	aaatccgact	480
aacggtacta	tcactaatat	tgatggtgag	tttactctta	acactgccgg	taaggaactt	540
cagggtgactt	atattgggta	tatacctcaa	gcgattgttc	ttaaaccggg	agttaatagt	600
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acatcttctc	ctctgtttgt	tattgacggg	gcaattgctg	atgcttcttt	cttttcaagt	900
cttgatccga	attcgataga	gagcatttca	ttcttgaaaag	atgcggcatc	ttctgctatt	960
tacgggttctc	gtgcagctta	tgggtgttga	ttggtaaaaa	ctaaagggtg	taaagaagg	1020
gatttgaaga	tcagttatga	tgggttcggtc	gcagtgaaaa	tggcgactta	tacacctgat	1080
gtattgggct	ctgaatggta	tgcacgtttg	agtaatgagg	ctgctgtctt	caccgcggag	1140
tgccaaaacta	ccctctattg	cccc				1164

&lt;210&gt; 4133

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4133

atatttatttc	ttgtctgttt	tcctaagttc	cgtatgaact	tagctttcta	ttttattcat	60
tactttcaaa	aatatcgtgt	tctacttaag	ttcttcgaga	actatggcgt	ttttccctt	120
ttattatttc	tgtttctgga	ttctacttac	atatttgatta	tattatactt	tttatcattt	180
tgtattttct	atcccatctg	tattgcctgc	ttttaa			216

&lt;210&gt; 4134

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4134

catcgtgcga	aaatgaaatt	taaaagtcgg	cctcttaaaa	gctattttact	acctcttatt	60
gattacaatt	caactatcat	aaatataata	aactcatatt	ataagcatca	tatagcatcc	120
cgtttttaga	tttatgtagc	aaacaaatcg	tatacaacac	ggtttgtctg	tcataagtta	180
ttctactaa						189

&lt;210&gt; 4135

&lt;211&gt; 240

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (119)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4135

ggtacacaca	ctatgcgatt	gtccgaatta	aagacagggtg	agaaaggagt	cattgtaaaa	60
gttttggtac	acgggtggctt	ccgtgatcga	atcgtggaga	tgggctttat	caaagggtana	120
cccgtaggag	tattgcttaa	tgctccattg	acagaccgga	tctcatacgc	aataatgggt	180
tatgtaatct	ctctgcgacg	acaggaggct	gatatgattg	agattatcag	cgagcagtag	240

&lt;210&gt; 4136

&lt;211&gt; 2373

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4136

agttgtcaga	caaagcatcg	aataagaaaa	ctgatgaatc	agattcttaa	gccacacaat	60
cttccccctt	cctttcaagg	gaggggggtg	aagataagta	tcaaaagttg	gtggaaacct	120
gccctttttc	tccttcttgt	cctgtatata	ttttgccttc	ccagccaatt	attcacctcc	180
ccttactcta	ccgtcgtaac	agaccggaac	ggtgaacttc	tcggtgcccg	tatcgccacg	240
gatggacaat	ggcgttttcc	cccgcgcgag	aatattcccg	agaaagttgc	cacttgccctg	300
attgaattcg	aggatcgcca	gttctaccat	cattggggag	tcaatccttt	ggcaataggc	360
agagccgtag	ttcaaaacct	caagcacaaa	cgtatcgta	gcggaggaag	tacccttacc	420
atgcagacca	ttcggttggc	tcggaacaag	ccgcgtacat	tcaaggaaaa	gctgattgaa	480
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ttcggacact	cggctgaaga	actatcatgg	gcagaatcgg	ccatgttggc	tgtactcccc	660
aactcaccgc	ccatgatcca	tctttcgaaa	agtcggcaag	cactcctcga	taaacggaac	720
cgactattga	cacacctgca	taaaaaagga	attctggata	cttcaacata	tgaactggcc	780
atcagtgaac	cacttccgca	ggaaccttta	cctcttcac	acatagcgcc	tcacctgaca	840
gactatTTTT	atcaaaacct	aaatggaaaa	tactccgtat	cgaccatcga	cagaggtata	900
cagactcaaa	ttgaaagttt	ggtagaacga	tggaaacagt	aattcaaacg	gagtgcacac	960
cgtaatctgg	cgattcttgt	gattgacatc	cggacgaatc	aggcgatagc	ctattgtggc	1020
aatgtacatt	tcgacaaaga	gcagagcggc	aaccaagtag	atgtcatccg	gtcgccacgg	1080
agcaccggca	gcattctcaa	gccttttctt	tattatgcca	tgctacaaga	aggagaaatt	1140
ctcccaaata	ctttgttgcc	ggacattccc	gtcaacatca	atgggttcac	tccacaaaat	1200
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caaatcggac	tgactaccct	gaaccgtccc	taagaccatt	acggactttc	tctgattctg	1380
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&lt;210&gt; 4140

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4140

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&lt;210&gt; 4141

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4141

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&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4142

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&lt;211&gt; 1449

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4143

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&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4144

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&lt;211&gt; 1185

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4145

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 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 4150

&lt;211&gt; 1200

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4150

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&lt;210&gt; 4151

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4151

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cctcgataa						189

&lt;210&gt; 4152

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4152

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&lt;210&gt; 4153

&lt;211&gt; 1587

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4153

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&lt;210&gt; 4154

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4154

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&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4155

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&lt;211&gt; 3246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4156

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&lt;210&gt; 4157

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4157

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&lt;210&gt; 4158

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4158

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&lt;210&gt; 4159

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4159

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&lt;210&gt; 4160

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4160

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&lt;210&gt; 4161

&lt;211&gt; 1416

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4161

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<210> 4162

<211> 747

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (593)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4162

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caagcgggct gtacttcgat caatattgta tctaaagaac gtcagaagaa cagtggtaga 660
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<210> 4163

<211> 606

<212> DNA

<213> B.fragilis

<400> 4163

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 <211> 2985  
 <212> DNA  
 <213> B.fragilis

<400> 4164

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<212> DNA  
<213> B.fragilis

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actctcatat gtatcgacca caaggccgga catgggtcca acaaagccac aacaaagtta 180  
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<210> 4166  
<211> 825  
<212> DNA  
<213> B.fragilis

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<212> DNA  
<213> B.fragilis

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gcgataggct atcagtcagt agcttcttta ttatattcct atttctggtt gtcgcttggt 180  
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<210> 4168  
<211> 192  
<212> DNA  
<213> B.fragilis

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ttctctattt ttctttttaa atttgtattg tttctccctg aaaaattgta tgtttgcaca 180  
tcacaccgat ag 192

<210> 4169  
<211> 1011  
<212> DNA  
<213> B.fragilis

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tttgtgaatc	aagcaattta	tagtcaatgg	gaacaggctt	ctgatatgta	taccgatgtc	180
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ggcgtatgaa	gtgtagaaac	ggtgttactt	aacggaaagg	ttaaggtaga	acctaaggat	660
cacaaagagc	aaataaaagg	agaatacatc	cttcaaccga	acgaaaaact	aacgtgccaa	720
gtaaattggtg	atatacgtat	agatcgcgta	gatgccaat	cttattctgc	ttggcgtatt	780
ggaggacggt	tgagctttta	aaatgaaaca	ttagccatga	tcttgccctc	gttagagaaa	840
tggtacggac	aaaagatcga	ttgcccgcag	aaaactgctg	atcattatcg	ctttacattt	900
acgttgcgga	atgaaccttt	ggatctgata	ttaaataata	tgtcgcatag	tgcgccatta	960
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&lt;210&gt; 4170

&lt;211&gt; 1548

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4170

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cttcatacgt	ccgtatggag	acaaaatcat	aaggaaacta	tatgtaaaga	catgaaaaca	120
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cctttctttg	ccagtttcga	tccggaaacc	ggaaaagcgg	ggaaaccttt	tctgatgccc	1440
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&lt;210&gt; 4171

&lt;211&gt; 1638

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4171

caaaatatga	aaaataaaat	tttatatat	atagcgtccg	ttatgctaac	aggatttacc	60
tcttgtagcg	atcttctgga	tcgttatcca	acagaagaac	tttcagacgg	aagtttctgg	120
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aacgtgtcca	aaggcgtata	cgaccctgct	gaccaaggat	ggtcagagga	ttacggatat	300
attcgtagat	gtaatctggg	attacagaaa	ttagaagaaa	tgggaattatc	tcagtcggat	360
aaggaaccaa	tagccggaca	agcttacttc	ttcagagggtt	atattttattt	tgaattgatt	420
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ttcagctact	taccagaaga	atggccggct	acacagtggg	gacgcataac	caaaggtgcc	600
gctatggcga	tgaaagcaag	agcagctttg	tatttttgga	attgggaaac	agcggctaca	660
gctgcaaaat	ctgttatgga	tctaaataaa	tatgatctgt	acgacaaaga	aaacactgga	720
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gaccataatt	atatctaccc	gattcctcaa	tctgaaattg	atttaaattcc	caagttaact	1620
caaaatccgg	gatattaa					1638

&lt;210&gt; 4172

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4172

catcgtgcga	aaatgaaatt	taaaagtcgg	cctcttaaaa	gctatttact	acctcttatt	60
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cgtttttagga	tttatgtagc	aaacaaatcg	tatacaacac	ggtttgtctg	tcataagtta	180
ttctactaa						189

&lt;210&gt; 4173

&lt;211&gt; 1359

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4173

aaaaatgaag	acggtggata	tgaaatgtct	cgtctatcct	acttcggacg	tgtccagtat	60
gactttatga	ataagtactt	gtttgaagcc	aattttacgtg	cggatgcctc	ttcacgtttt	120
ccaaaagata	atcgctgggg	tgttttccca	gcaatctctg	ccggatggag	aatttcggaa	180
gaaacattta	tcaaagacaa	tgtatcatgg	attagcaact	tgaaactgcg	tcttggatgg	240
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ccaagaatca	caaagacag	tcaaacgaat	ttcacaactt	cttcattctg	gctacaaaat	1140
gcctcatatg	tacgtttaaa	aactatttcc	ctgggatata	atctgcctaa	cagtttctta	1200
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agtgatttgg	aaggatcga	tccagaagaa	ggcaatgaac	gtggttggtc	ttatggaaac	1320
gtaaaaaaag	tttcaatcgg	attaaaagtt	tcattctaa			1359

&lt;210&gt; 4174

&lt;211&gt; 606

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4174

aatttgtatt	gtttctccct	gaaaaattgt	atgtttgcac	atcacaccga	tagattttatg	60
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ctcagttata	aagaaatagc	tattcgatta	tctatcagtg	aaaaaacagt	agagcgtcat	540
attaatgaag	ccttaaaatt	tttacgtaag	aacatctatt	tatttttttat	atttctttct	600
ctataa						606

&lt;210&gt; 4175

&lt;211&gt; 1752

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4175

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attaactctt	aa					1752

&lt;210&gt; 4176

&lt;211&gt; 3387

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4176

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aaaaaaatct	ctataaatat	agaagatgct	tcgatagaag	ttgttctaaa	tcaaatattt	360
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&lt;210&gt; 4177

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4177

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ctttttctat	attccaaaac	tttttttcta	caacatatcc	agtcacaagg	atggatgagt	180
tatctgacag	catttattat	acaatttttt	cacataccta	ctataggcag	cattttactt	240
gcaggaattt	tagccctcat	atatttactg	actaacgatg	ccataaaaaa	aattacaggg	300
cacaatgata	tgctactgct	atcactaata	ccttctatat	atttgttcct	ctattcaatg	360
actgtcgacc	attcattaac	accaatcatc	gctaccttcc	tgggacttct	gattatgggc	420
ctttttcatc	aaatcacagt	tgcgcccttg	tcttttatcc	gaaaaattta	ttctccactt	480
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gaaaagagtg	taaaagaaaa	gaattgggaa	aatgtactga	cacaaaccga	aaaatatatc	660
aactcgggaa	gaaccaacca	gttgatctcc	tactttcaca	acctggctct	gtaccatacg	720
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&lt;210&gt; 4178

&lt;211&gt; 1947

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4178

ttaatcgat	ttatgagaaa	atgcaacatg	cgggtggttta	gtccgcaaag	aatgaaaaag	60
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caagtactaa	agatttcaat	gacaaaagacc	aatgtatcta	ttgaaaatgt	acttctgtga	180
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aattataata	aaactttcgg	caaacattca	atagcagttc	tgggaggttt	tgaatcattc	1860
gaacacattt	ataaattttac	caaagcttct	cgaaggggcg	gtggcaacaa	tgaattaacg	1920
gaatcattga	ataccctgaa	aaaatga				1947

&lt;210&gt; 4179

&lt;211&gt; 3423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4179

ttaatcgtat	ttatgaaaaa	atgcaatctg	cggtgggttta	gtccgcaaaa	aatcaaaaaga	60
caactagcgt	ttgttttagc	catttgtctg	gtttgtatag	tgcccgtcac	tacctatgct	120
caaattctta	aaatatccat	gaagaggaca	aatgtctcta	tccagaatgt	tattcgggaa	180
ttagaacaaa	aaagtggata	tactttcttt	tacaatgaca	atcaggtgaa	acttactaaa	240
aaggtttctg	tagatgttac	agacgcacct	attgaaaatg	tattggatca	gattttcaac	300
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t aa						3423

&lt;210&gt; 4180

&lt;211&gt; 1776

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4180

aaaatagaat	tcacaatgaa	aaacaatata	agaaaaattg	cattggggatt	atgtctcaca	60
ggagcattga	cagcctgcga	tttagatgtg	gttccacctg	ctgacattgc	agcagaaaaa	120
ttttggcaga	ctgaaaaaga	tgcatgggat	gctttgaaca	cttggtatgc	cacattagat	180
ggtgtagaca	tctgggatga	attgtgtacc	gacaatgcgc	atagccataa	accttgggaa	240
ggaaacttcg	aaatgggtcca	gcaaaatggt	attagtagag	ccaacggata	tgggagctac	300
tatttttggt	cgttcgatat	agtaaaaca	tttatcgcca	atatagataa	atgtgcagtc	360
agtgaagaac	tgaaaacacg	tatgaaagca	gaagcacgtt	ttttccgcgc	tttaagctat	420
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cgtattactc	gtgccgggtg	tttggccctc	cgtgcccggt	cagctttata	tttcggcaac	660
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cgtgtatcat	cgcttaccac	cgcacagcaa	aaagaagctg	acgaaatgga	tgcataatatt	780
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ccattgttga	aagacgatca	gaatccggga	tattaa			1776

&lt;210&gt; 4181

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4181

ttaggcatgt	ttgacattca	ttttgtaaca	cacgatcagc	ttactgaaat	aattctttta	60
gaagtgattc	gccttaaatac	ttcgggttgg	aattattctt	atgaggatca	agtatcgtag	120
attaatactc	atataaaaga	ttcggatttg	cattgttttt	tatcagagga	tggtgttaat	180
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tatgggtgttg	gtaatgtttg	ttctatcgct	agaaaaaagg	ggtatggcag	tatactcctg	300
aattatgtta	atgatttcat	tgtaaataag	gaatatattg	gagtattgtt	atgtaaacca	360
gaattgtcac	atttttataa	taaatctggt	tggaaattag	taccataatt	aaagttatta	420
tgtgagttct	cattaactaa	tatagagatg	atgacatata	attgtgaatt	taattataaa	480
caaattattt	ataaaggagg	gcctttttta				510

&lt;210&gt; 4182

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4182

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gaacaagtac	gcagatgttg	taatttttat	gaagactgcc	tgaatgcggg	cggtaccgag	120
caggagagggg	gctatggccg	tagcatccta	aaggattttt	cgaacgacgc	ccaaatcaaa	180
tccttgcaaaa	gtgatggcta	taatgtctat	atgtatcttg	atgatgagtt	gatagagggtg	240
ccgccttgcc	catgtgcgga	ataa				264

&lt;210&gt; 4183

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4183

gttatgaata	cactcacttc	tcaaattgaa	caattacaga	gtctcgcgca	cgagttactc	60
tatttaggtg	tggatgggtgc	tcctatttat	accgatcatt	tccgtcagtt	gaacaaagaa	120
gttttagaac	aatccgatgc	gttgatctct	cagcgcgggtg	ctacttccga	agaggaggca	180
aacatttgtc	tggcactatt	gatgggttac	aatgcaacca	tctataatca	gggtgacaag	240
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gcgaaagagg	cgcatactat	catagaaaagt	tggaaagata	aagaactttc	tgaagataaa	420
aaagaggcaa	tcaataattt	gagaaaatttg	gaagagaatc	catatcctta	tagtgaaatg	480
gaatag						486

&lt;210&gt; 4184

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4184

ctccccgctaa	caaaaagagat	agatgaagtc	catcagtagc	cgaatgtaaa	gctaattgaca	60
gaggattcccc	aataataagca	cgaaacttat	cttcaaactg	ataaactgct	tctccctctg	120
caatatagcc	actatacaat	atcttgtgta	attctggcat	taaaatatca	gcaggaggaa	180
gataagggtt	cactaaaggt	atcattatta	tttatcttat	ttattttatac	ctaa	234

&lt;210&gt; 4185

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4185

ttatcgcgga	cgcataat	aagtgaata	ggactatata	taggggtgta	gaattcaata	60
gaattaacgt	ttaagagtga	gaaagatatt	atgcgctgta	tagatactgt	aactattact	120
atctcgaaaa	tggagattga	tttacctaaa	atagagattg	ttaagcaatg	tggtatgatt	180
gctgctaata	ctgtcttttt	aataaatagt	ttgacttcta	atattccata	tatgtttttg	240
gataggctca	ggggcgtaaa	agttacttgg	gataaaataa	aatag		285

&lt;210&gt; 4186

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4186

gcgacgaatg	ccctccgtgc	ggcaggtgat	gtgaattata	ctttctatgt	aggattgggt	60
gtgatgtgga	gtgtggctgt	cggcataggt	tattttattg	gaattttattg	ggcttggggc	120
atctcgcgca	tgtgggttgc	ctttgctctc	gatgaaaaca	ttcgcggaat	tatctttgtc	180
cgctcgttgg	atgggatgaa	gtgggtgaat	aaaagctttg	tgagggtcata	a	231

&lt;210&gt; 4187

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4187

gctgaaaaag	cggggaccaa	cctgcaaccc	caaggcatat	acaaagataa	tgagccccgaa	60
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gccggcaaaa	aagacaaagg	taacgccaaag	cgaaatgcc	caaacatgaa	ttttgcccc	180
tccgagccca	atggcggaag	tcagggaag	aacgacaact	gctgcaaaag	cagaatgttc	240
gataaagaga	ctatataa					258

&lt;210&gt; 4188

&lt;211&gt; 1209

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4188

ataatgaaag	catgttttat	ggggttaggc	tatattggct	tgcccactgc	tattattgct	60
gccaaacacg	gtattcagat	taccggagtt	gacattaatc	ctaaagtagt	tgaaatgact	120
aatttgggta	aattgcatat	tattgaacca	ggtatgcagg	cactgcttca	agaagtagtt	180
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&lt;210&gt; 4189

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4189

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&lt;210&gt; 4190

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4190

ataaatctgt	atatgaatga	tatatttgat	gaattgggtat	catccaacta	ctggaatgga	60
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ggtaaccgcc	ttgtaaaggt	cctgaccgga	cagagagggg	taggtaaagg	atgcctgttg	180
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aagtaa						246

&lt;210&gt; 4191

&lt;211&gt; 837

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4191

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&lt;210&gt; 4192

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4192

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attcgtgact	ctcttgaaaa	attgaagact	gaacttgatc	tcaattacta	tcttcccact	120
cagtttgtea	tccggcagtt	gaaatatcgt	cgaaaacggg	tggaaagtccc	tgttattaag	180
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gaccatttat	ctgtcggtag	cagggttcag	gtagttaaag	gtgatttctg	tgggtgtcgag	420
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&lt;210&gt; 4193

&lt;211&gt; 1698

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4193

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 <212> DNA  
 <213> B.fragilis

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ggtcttgatg	tagagcaa
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	gaatcttaa
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	219

<210> 4195  
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 <212> DNA  
 <213> B.fragilis

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caggtcggg	ctaaattggg
agcaatcgct	aa
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	180
	240
	300
	312

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 <213> B.fragilis

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tcagcgagat	ag
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	120
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	240
	252

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 <212> DNA  
 <213> B.fragilis

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tgccgttacc	ggacttgctt
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	120
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	300
	345

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 <212> DNA  
 <213> B.fragilis

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gcagtatcga	aaaacgaaat	gatgaaagga	aatggaaaa	gacaaatcat	gctcgaaaag	120
gactacacag	aacagtgtc	cgaatggatg	gcagaacgac	tggaagccct	catagaatat	180
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aaaggaaacat	tgggtgggata	cgaaaaagat	ttcggaaaagc	agtatgatcc	gatggaaata	300
aaaaacacag	tgggtctaccg	ggatgtggaa	caacaaaggt	ggatgacctt	caaaatagag	360
aattttcatgg	aatggagagc	gatcgtatag				390

&lt;210&gt; 4199

&lt;211&gt; 1095

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4199

ttgcgactaa	acatgattga	cagaatggat	aaaaacgcaa	aaatttatgt	agccggacac	60
cacggactgg	tgggttcggc	tatatggaaa	aacctgcagg	aaaaggggta	tacgaatctg	120
gtgggacgca	cacataagga	actggactta	ttggacgggtg	cggccgtaaa	gcagtttttt	180
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&lt;210&gt; 4200

&lt;211&gt; 1161

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4200

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cagaataaag	gcggaacaaa	aagtggggga	atcaatcttt	ctttatggaa	aaaagcatgt	120
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gcaggagtgg ttctgttcta a 1161

<210> 4201

<211> 252

<212> DNA

<213> B.fragilis

<400> 4201

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ggaatttcaa	ttattctctt	ttgtctgac	caaggtgttc	tctatcgtaa	ttttaataact	180
tggtttgtga	agactcgcaa	gagaatcgtt	ccggttcaga	ttgaaggttt	cctttttctg	240
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<210> 4202

<211> 210

<212> DNA

<213> B.fragilis

<400> 4202

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cgggataatc	tgtagctac	tgagactaag	gaaaaatgta	atgatattta	tattaatgga	180
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<210> 4203

<211> 192

<212> DNA

<213> B.fragilis

<400> 4203

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aataatgtta	gttttgagat	gctctataaa	tctcagaaaa	tggaatgac	atttagaatg	180
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<210> 4204

<211> 1173

<212> DNA

<213> B.fragilis

<400> 4204

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&lt;210&gt; 4205

&lt;211&gt; 2022

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4205

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&lt;210&gt; 4206

&lt;211&gt; 402

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4206

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 <213> B.fragilis

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 <211> 186  
 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

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<210> 4211  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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1032

&lt;210&gt; 4213

&lt;211&gt; 564

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4213

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&lt;211&gt; 1125

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4214

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&lt;210&gt; 4215

&lt;211&gt; 1095

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4215

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&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4216

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&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4217

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&lt;210&gt; 4218

&lt;211&gt; 1083

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4218

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<212> DNA
<213> B.fragilis
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 <213> B.fragilis

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 <212> DNA  
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&lt;210&gt; 4224

&lt;211&gt; 2589

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4224

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&lt;210&gt; 4225

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4225

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&lt;210&gt; 4226

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4226

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&lt;210&gt; 4227

&lt;211&gt; 1578

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4227

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cgtccggaac	cgggttacaa	tattccggca	aaccaggaat	acaaatgggg	attcacaatc	3120
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&lt;210&gt; 4230

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 4230

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tgtcttgagt	ctgttgctct	ctttatccgt	gtcggatgtt	tgtgcacaag	agcgtattta	300
tga						303

&lt;210&gt; 4231

&lt;211&gt; 1194

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 4231

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gaaaataaaaa	aaacgataag	acaatacgaa	attatgatta	atactttaac	atcgttgaga	180
ttcatatttg	caataatggg	ttttggagca	cattgctatg	ttatagacaa	tgttttcaat	240
acccattttt	tcaaagaggg	atttgtaggc	gtcagcttct	tttttgtgct	aagcggcttt	300
agtatagcat	ataattatca	agagaaactg	aaagacgaca	aaatagacaa	acgcactttc	360
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tactattttg	agaagcctat	gaataaacga	gtaaaaacat	tactaaacag	atag	1194

&lt;210&gt; 4232

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4232

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gttatttgcg	cacaagaacc	tgacaaccgg	caaaagacgt	taacaatgtt	aattgaaaaa	120
aggtataagg	atgaagatac	cgggttcagac	ggcgtaaact	cacttccgaa	acttaagtta	180
tcttattcag	ccggtgtctg	ttttttctta	ttaaagcaag	caaaaaggac	aattatcaac	240
ttggaaataa	agaaataa					258

&lt;210&gt; 4233

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4233

aaaacaaata	atttattaag	catgataagt	cccttagcgt	atattcatcc	cgaagcaaaa	60
atcgggtgaaa	acgtagagat	agctcctttt	gtgtacattg	atagaaatgt	agtcacgcga	120
gataacaata	aaattatggc	taatgccaac	atcctgtacg	gttcacgtat	cggtaacgga	180
aatacaatct	ttccgggagc	cggtatcgga	gcaatccac	aagatttgaa	attcaaagggt	240
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atcaggtaa						789

&lt;210&gt; 4234

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4234

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aaaagtgaat	tcggtgaatt	cagatattaa				1170

&lt;210&gt; 4235

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4235

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tggtcccggg	tatcggcgct	caaggagggt	cttctcgaag	aagtatgcaa	atatgggatg	120
aacagcacct	gtggacttat	tgtgaattcc	tctcgcgga	ttatttatgt	agataaaaca	180
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cagctgaaag	ctattttata	a				261

&lt;210&gt; 4236

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4236

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cccagccatc	ttatttgcaa	tctttcgggt	ttttattact	tttacgccat	caataaaaaca	120
gtaacaacta	tgatatacag	atttaccatt	atatctgatg	aggttgacga	tttcgtcaga	180
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&lt;210&gt; 4237

&lt;211&gt; 1113

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4237

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aatgcgagc gcttgaaaga gagtgaattg taa 1113

<210> 4238

<211> 393

<212> DNA

<213> B.fragilis

<400> 4238

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tgcaccgcca	cccgaatttg	taaatcagac	atcatttgga	cgatgtgtcc	cgggagtttc	360
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<210> 4239

<211> 1107

<212> DNA

<213> B.fragilis

<400> 4239

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<210> 4240

<211> 219

<212> DNA

<213> B.fragilis

<400> 4240

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aagaagcgaa	aaaagccgga	taaaataaaa	agagttacaa	agggagcggt	attacataat	180
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<210> 4241

<211> 1647

<212> DNA

<213> B.fragilis

&lt;400&gt; 4241

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&lt;210&gt; 4242

&lt;211&gt; 3543

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4242

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&lt;210&gt; 4243

&lt;211&gt; 1389

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4243

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&lt;210&gt; 4244

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4244

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&lt;210&gt; 4245

&lt;211&gt; 747

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4245

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 <212> DNA  
 <213> B.fragilis

<400> 4246

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 <211> 1188  
 <212> DNA  
 <213> B.fragilis

<400> 4247

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 <211> 231  
 <212> DNA  
 <213> B.fragilis

<400> 4248

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<210> 4249  
 <211> 1806

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4249

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&lt;211&gt; 681

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4250

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&lt;211&gt; 2112

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4251

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atgtttgcaga	ttgccaaact	aaagcagcag	gaagctgaac	ttctgggtta	gttgcagaag	1440
acaaaacttg	aggaaaggga	acgggagttc	cagtctttag	tgcatgaagc	gcaacagcgt	1500
aaagttcaat	attatctgga	aggtcttgag	gtggaaagaa	agcgattggc	gaagggaactt	1560
catgataatg	tttccaatga	attattggcc	atcaagatga	aaatcaccga	tggaacaagt	1620
agctgtgagg	agatcatgga	cacgttacaa	actttgcaag	cggaagtacg	gggcatttcg	1680
catgacctga	tgccacctat	tttcaaatac	gcttcgttat	cggagattct	tcaggattat	1740
gtatatcagc	ataatcagcc	ggggcagacc	gaactggagc	tggtgctcga	accggaggat	1800
aactttgaca	atctatcgca	gaaggtgtcg	ctggagatct	atcgaattgt	acaggaagct	1860
gttggttaact	cgttgaagca	tgcaacaagc	acgttggtga	agattatcct	ggtgcgggaa	1920
gataacaagg	tgaaattgac	agtttcggat	aatggaagag	gatttgagca	acagaccggg	1980
aagacgggaa	ttggtcttac	tatcataaaa	gagcgtgtgg	aaaacctgag	gggaactctg	2040
actttgaact	ctgctccggg	aaaaggaaca	gagctgatcg	tggaatcga	tctggagaat	2100
ctggaaaaat	aa					2112

&lt;210&gt; 4252

&lt;211&gt; 240

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (12), (35), (87), (98), (136), (140)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4252

tgggcgcagtc	gncgcatgca	cgacgcacgc	acganatcga	gtcactctca	cggataactca	60
cgattcctcc	ttacctcggt	catcacnccg	tacactgnnta	cgagtctagc	gcgacgggag	120
cactgtcctc	acctentatn	tcgtgtaatg	tcgtctcgtc	tattctctca	ttgtaataag	180
catgtggccg	gtactcgcga	cgacacactc	cagcttatct	cacctctcta	tagtaagagc	240

&lt;210&gt; 4253

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4253

tctaataatta	gcttctttcac	ctcacggatg	gactctttcgg	gcgaaagccg	ggatacttcc	60
ttttttgtca	actataaaaag	agggcettaca	cgtdccgaaaa	ctgaattaga	ttccatgagt	120
aaaagaaaac	ttaccacca	atttgaagaa	gaacccccaa	aaaatcgatc	tttcatcttc	180
caccctctgt	tttaa					195

&lt;210&gt; 4254

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4254

aatatcctca	ggagatatcc	gaataagcct	atagcttcta	atttaaagaa	ttctattatg	60
tggttacttc	ttgcttttct	ctcagcgaca	ttgctgggct	tttatgacgt	gtttaaaaag	120
aaagcgttga	aagacaatgc	ggttttaccg	gtgttggtct	tcaatacact	tttttccagt	180
cttatatttc	ttcctttttat	tttggtgtcg	gcatttgccg	ccggagtgc	ggagggcact	240
atgctcgatg	taccgggtgg	gggatgggaa	gtacataaat	ttattattat	taaatcattt	300
attgttcttt	cctcgtggat	actcggatat	ttcgggatga	aacatctgcc	tattactatt	360
gtaggaccga	ttaatgccac	ccgtcccgt	atggtgcttg	tgggagccat	gctgggtattt	420
ggcgagcgct	tgaatctcta	tcagtggatc	ggcgtgatgt	tggccattat	ttcttttttt	480
atgctgagtc	gttcggggaa	gaaggaaggt	attgacttta	aacataacaa	gtggatactt	540
ttcattattc	tggcagccgt	agcgggtgcg	gtaagtggct	tgtatgataa	atacctgatg	600
aagcagctgc	ctcccatggt	cgtacagtcg	tggataatg	tgtaccacaa	gtttattatg	660
tgtcccattc	ttgcgcttct	ttggtggcgg	aaacgtaagt	catctactcc	gttccggttg	720
gattgggcta	tcattttttat	ttccatcttt	ctctgtgctg	ccgattttgt	ttacttctat	780
gcattgagct	atgaagattc	catgatttcg	attgtctcga	tggttcgcag	gggaagtgtg	840
attgtatctt	tccttttccg	tgcctatggt	ttccgtgaaa	agaattttaa	aagcaaagcg	900
attgacctta	ttctggtggt	aataggaatg	atattcctat	atttggaac	taaataa	957

&lt;210&gt; 4255

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4255

ttatataaaa	gtatgaaagc	attaacaaaa	acagatttca	actttccggg	acaaaaaagt	60
gtgtaccacg	gaaaagtgcg	tgatgtgtac	aacatcaatg	gcgaacaact	cgtaatggta	120
gctaccgacc	gtatttcggc	ctttgatgta	gtgttgcccg	aaggtatccc	ttataaagga	180
caaagtctga	atcagattgc	agcaaaattc	ttggatgcaa	ccacagacat	ctgtccgaac	240
tggaaaactc	ccactcccga	cccaatgggt	acagtgggag	tactctgcga	aggtttcccg	300
gtagaaaatga	tcgtacgtgg	ctatctttgc	ggaagcgcac	ggcgtgctta	caaaaaacggc	360
gtacgcgaaa	tctgtggcgt	aaaacttcc	gaaggtatga	aagagaacca	aaagtccct	420
gaaccgatcg	tactccgac	tacaaaagca	gaaatgggat	tgcacgatga	agatatctcc	480
aaagaagaaa	tcctggctca	gggactggct	actccggaag	aatatgccat	cctcgaaaaa	540
tatacattag	ctttgttcaa	acgtggatcc	gaaatagcag	cggaacgcgg	tttaattctg	600
gtagacacca	aatatgaatt	tggaaagcac	aacggtagca	tctatctgat	ggacgaaatc	660
catactccgg	actcaagccg	ttatttctac	gccgaagggt	atcaggaaacg	ttttgaaaaa	720
ggcgaagcac	agaaacaact	ttccaaagaa	ttgtacgcg	aatggttgat	ggaaaacgggt	780
ttccaaggca	aagaaggaca	gaaagttoct	gaaatgactc	ctgctattgt	ggaaagcatc	840
agcgagcggt	atatcgagct	gtttgaaaac	atcaccggcg	aaaaattcgt	gaaagaggat	900
accagcaaca	ttgccgaacg	tatcgaaaag	aacgtaatgg	cattccttgc	aaaatag	957

&lt;210&gt; 4256

&lt;211&gt; 1200

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4256

agatttcaga	gtgaaatccg	cctctgtaaa	aacacttata	aatgtatgaa	gagaattcta	60
ttgttccttt	tggcctgttg	tcctatgctt	ctttgtgcac	aggaagataa	cagtaagtat	120
ctggccggtg	cagtaccgt	agtcaacgga	aaagtcattt	ttgcagaagt	aattcaagct	180
tccgatatgt	cgaaacggca	gatctatgat	gctttgttaa	aatgggcaga	gaagcgtttt	240
acaccttcaa	aaggacagaa	ggggagagtc	gcctattttg	atgggaaaaa	agggcagatt	300
gcatgttttg	gtgaagagta	tttgcaactt	tcggcaacga	atagcttctt	cttggatcgt	360
gctactatta	aataccggct	ggtgattaac	tgcctggacg	gttcctgtaa	gatggagatg	420
tacaacattt	cttattttca	tggatgatgat	acagagatgg	aggcgggaaga	ttggatcacg	480
gatgagaccg	gattgaataa	agccaaaacg	aaagtgggtg	ccaaatatgg	aaaactccgt	540
atcaaaacaa	tcatctgtt	tgatgacttg	acggagcagg	ttacgaaaac	gctgggagga	600
gcaaaatcag	aggttcctct	attggcaaaa	gaacctaaag	ttactccgga	agtgttcgat	660
cgggaatttc	caaaggctgt	ggagcaggga	gctatggcag	ggtataaaca	tattcctgct	720
gataagattc	cgggtaatat	cattaaaatg	ctctctgaag	attggatggt	gattacagcc	780
ggtacggaag	ataaatacaa	catgatgaca	gccagctggg	gcggactggg	gtatctctat	840
aataagccgg	tttcattctg	ttttatttat	cctacacgct	atacttatca	attgatggaa	900
agaatgata	catatactat	cagcttttat	acagagactt	atcgggatgc	tttgaaatat	960
tgcggtagtc	atagtggcga	agatgttgat	aaagtgaaa	gcgccggatt	gactcctctt	1020
actactcctt	cgggcagtaa	agctttctct	gaagcatgga	tgatcataga	atgtaagaag	1080
atgttatccc	agccgatcac	tcccggagcc	tttgatactc	cggagttgaa	agaagcatgg	1140
aaggataaat	ctttgcatac	gatgtatatc	ggtgagataa	tgaatgtgtg	ggtcaaataa	1200

&lt;210&gt; 4257

&lt;211&gt; 240

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4257

aaaggctgtg	gctccggagg	taaacgtgac	attgaatccg	gcagactaaa	aaatatttat	60
tgtgggggtgc	tactcccaca	gaccaatgtg	tcaaaactca	ccatggagga	caagccttct	120
atcctcgggtc	ggaaggatgg	aaaaaaacgg	gaaaatatcg	atttgaaaga	actttatcaa	180
ttatataatg	aaatagattc	gtatattagc	caacgatata	acgaactgtt	tggactctga	240

&lt;210&gt; 4258

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (15), (137), (237), (243), (280), (303), (355), (366), (404), (408)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4258

gcttgggtgtg	ggccttgcca	tacgggtacta	atgtgcgcga	tgatgtatgg	gtatgggtgag	60
gcacagccgg	ctagacgagg	tgatcatgtg	gatgcgctct	gtctacatcg	cctcgctgtg	120
ataatgcata	tgtgtanata	cgccttcgaa	cctctctctt	gtgatgagtg	tgcgcatgcg	180
ctacacagac	aacatcgtct	actactatgt	cttgctgttt	acatggcgcc	tgcgttntca	240
tentgtctca	cgtacgtgtt	cttgctgatg	gcgcagtcgn	cgcatgcacg	acgcacgcac	300
ganatcgagt	cactctcacg	gatactcacg	attcctcctt	acctcgttca	tcacngcgta	360
cactgntacg	agtctagcgc	gacgggagca	ctgtcctcac	ctcntatntc	gtgtaatgtc	420
gtctcgtcta	ttctctcatt	gtaa				444

&lt;210&gt; 4259

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4259

atgaaaaagg	gaattaagat	aggcgtcata	acattattat	tgctgcttac	cggatgtacg	60
------------	------------	------------	------------	------------	------------	----

ataggcggaa	gttttttcat	gtcgaattat	tcacttcgtc	cggaagcgaa	gatacgtgcc	120
aaaaatgctg	actcctatcc	tttcatatac	aagaattatc	cttttctgcg	tccttgggtg	180
gatagtctca	atcagggtca	tgcacttcgg	gacacttttg	ttttaaatcc	ggaaggtatc	240
cggctacatg	cttattacat	tgcagctccg	caaccaacca	aaaagacggc	agtcattgta	300
catggttata	cagacaatgc	cattcgcgat	tttatgatag	gttacctgta	taacctgat	360
ttacaataca	atgtactatt	gcccgaacct	caacatcagg	gggagagtgg	tgggtccgcc	420
atccagatgg	gctggaaaga	ccgcctggac	gtaatgcaat	ggatgcacat	cgccaaccag	480
atttacgggg	acagtaccca	aatggtagta	cacggtatct	caatgggagg	agctaccacc	540
atgatggttt	cgggagaggc	acaacottat	ttcgtaaaat	gtttcgttga	ggactgtggt	600
tacaccagtg	tatgggatga	attttcacat	gaactgaaat	cgagttttca	cctcccgta	660
ttcccactga	tgaatacaac	cagctggcta	tgccagaaaa	aatacggatg	gaattttgaa	720
gaagcctcct	ctttgaatca	agtaaaaaaa	agtcactctac	cgatgttttt	cattcacggg	780
gacaaagaca	catacgtgcc	tacatggatg	gtctatcctc	tttatgaagc	caaatacgcc	840
ccaaagcaac	tctggattgt	accgggagct	gcacatgccg	tatcttataa	agagaacaag	900
gaagaatata	cccggaaagt	caaagaattt	acagaccgct	acattcactg	a	951

&lt;210&gt; 4260

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4260

agtaagatta	tggagtcttc	ggctaagcaa	attgcagcat	ttatccaagg	ggaaattata	60
ggtgacgaaa	acgctactgt	acatacatc	gcaaagatag	aagaaggaat	accaggcgct	120
atctctttcc	tttccaatcc	gaaatacaca	ccttatatat	atgagactaa	agctagcatt	180
gtgttggtga	acaaagattt	tactcccgaa	caagaagtaa	aagcaacggt	aatcaaagta	240
gacaatgctt	acgagagcct	tgccaagtgt	ctcaatctgt	atgaaatgag	caaaccctaa	300
agaaccggta	ttgacgaacg	tgccatgtga	gcggaaccg	ctaaaatagg	aaaagacgta	360
tatatagctc	ctttcgcttg	catcggtgat	catgcggaag	taggagacaa	cacagtgatt	420
catccgcgat	ccactgtggg	aggtgggtgc	aagataggca	gcaattgtat	cttgtagccc	480
aactcgactg	tataccatga	ttgccgggta	ggtaataact	gtattctgca	tgccgggatgc	540
gtgatcggag	cagacgggtt	cggttttgcc	cctacccccc	aaggatacga	aaaaattccc	600
caaatacggt	ttgttatcct	ggaagacaat	gtagaagtcg	gcgccaatac	ttgcatcgac	660
cgtgcaacca	tgggagcaac	cgttattcat	agcggagtaa	agttggacaa	tctggtccag	720
atagcccaca	acgatgaaat	aggttcgcac	accgtcatgg	ctgcccaggt	gggcatcgca	780
ggttctacca	aggtaggcga	atggtgtatg	ttcggcggac	aagtaggcac	tgccggacac	840
ctcaaaatag	gcaaccaagt	gaatctggga	gcccatacgg	gtgttcccgg	aaatataaaa	900
tccggtagcc	aacttatcgg	aactcccctc	atggagctaa	aacaattttt	caaagcatcc	960
attgtacaaa	aaagccttcc	ggagatgcag	attgagttac	gcaatctccg	caaagaaata	1020
gaagaattaa	aacaacaatt	aaataagtaa				1050

&lt;210&gt; 4261

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4261

ccaatcgtta	tgactgcca	aactttaatt	gtacttatag	gtcctacagg	tgtaggaaaa	60
acggagttaa	gcctccgcat	agcagaatat	ttcaagacga	gtatcatttc	gtctgactcc	120
cgacagttat	acgccgaact	taagatagga	acggctgctc	cgaccccgga	gcaattaaaa	180
cgggttccac	actactttgt	aggtaccctg	caacttaccg	attattacag	tgccgcccac	240
tacgagacgg	aagtaatgag	tgttctcgaa	cagttatttc	aacaacatca	tgtcgtcctg	300
ctcaccggag	gctctatgat	gtatgtggat	gccatctgca	aaggcattga	tgacataccg	360
acagtatag	ccgagactcg	tgagctcttg	ctacataaat	atgacacaga	aggactcgat	420
aatctctgtg	ccgaactgaa	gctactggat	ccggtgtact	ataaaattgt	agatttaaaa	480
aatcccaaac	gggtcattca	cgccttggag	atctgttaca	tgacagggaa	aacttatacc	540
tctttccgta	cacaacaaaa	aaaggaacgc	ccgttccaca	tcctaaaaat	aggactgacg	600
cgagatcgcg	ccgaattata	tgatcgcctc	aaccgtcgtg	tagaccagat	gatgaacgaa	660
ggattgctgg	aagaagcccg	ctccgtatat	gcccaccgag	agttgaactc	cctgaacact	720



gtaggctata	aggaaatatt	taaatatctg	gatggagagt	gggatcttga	cttcgctatc	780
gaaaaaataa	aacagaactc	acgtatctac	tcacgcaaac	aatgacctg	gttcaaacgg	840
gatgaagaga	tcagatgggt	ccatcctgaa	caagagaaag	aatattatc	gtatcttcag	900
gtctcaatta	aataa					915

&lt;210&gt; 4262

&lt;211&gt; 795

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4262

agcagtatct	ttgcacgcaa	aaaccaagtg	aacggaatga	gcgtgcaaag	atatttttatt	60
tattttagcct	atgatggcac	ccattatcat	ggatggcaga	ttcagcctaa	cggaatcagt	120
atacaagaat	gtctgatgaa	ggcacttgcc	accttcctaa	ggaaagatac	ggaagtgatt	180
ggggcgggac	ggaccgatgc	cggggtacat	gcgtctctga	tgggtgcccc	cttcgactac	240
gaaggtgaac	ctttggatgt	ggataaagta	gctgagaagc	tgaatcgtct	tttgcccgag	300
gatatttcgg	tctataaggt	ctgtcgggta	aagccggatg	ctcatgcaag	gttcgatgca	360
acagcacgta	cttacaagta	ttacattact	actgtaaaat	tcccgttcaa	tcgtcaatat	420
cggtatcgga	tacataatcc	gctcgacttt	caaaagatga	atgaggcagc	cctgacatta	480
tttcattatt	cggactttac	gagttttagt	aagttgcata	cagatgtaaa	aaccaatatt	540
tgtaaagatta	tgcatgccga	atggactcag	gaggatgaat	atacctgggt	gtttaccatc	600
caggcagacc	gctttttgcg	taatatggta	cgtgccattg	tcggtacgct	tctggaagtg	660
gggcggtggca	aactgtcagt	cgatgacttc	cgtaaaataa	tagagcagca	gaatcgctgt	720
aaagccggta	cttcagctcc	cggaaatgcc	ctcttcctgg	ttaatgtaga	atatacctcag	780
gagatattcg	aataa					795

&lt;210&gt; 4263

&lt;211&gt; 1128

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4263

aaaaaagtca	tctaccgatg	tttttcatto	acgggtgacaa	agacacatac	gtgcctacat	60
ggatgggtcta	tcctctttat	gaagccaaat	cgggcccaaa	gcaactctgg	attgtaccgg	120
gagctgcaca	tgccgtatct	tataaaagaga	acaaggaaga	atacaccggg	aaagtcaaag	180
aattttacaga	ccgtacatt	cactgatatg	aaacagatac	tcacatacct	gctctttata	240
tggatactcc	tcccactaaa	agcagaagaa	aaaatatata	ccgtagacaa	catccctaaa	300
gtacacttgc	agaacaagat	gcagtatgtt	tgtaatcctg	ccggcatctt	gtcacagcaa	360
gcttgtgacg	aaatagatgc	aatgctatat	gcactggaac	agcagacggg	gattgaaaca	420
gttgttgcca	tagtgccatc	gatcggagat	aaagattgct	ttgaattctc	ccatcagcta	480
ctcaatcaat	ggggagtagg	caaaaaagg	aaagataacg	gactgggttat	cttattgggt	540
accgatcagc	gctgtatcca	gttttatacc	ggatacggat	tggaaaggcat	tctgcctgat	600
gccatatgca	aacgtataca	aatgcaagag	atgatccct	atctcaagaa	aggagagtgg	660
aaccaaggaa	tgctggcagg	agtaaaagct	gtatgtcagc	gcttggacgg	ctcgatggta	720
aacgatgatg	aaggtcgtgg	agaagaagg	atatctgtct	ccatgcttct	cgttgtcatc	780
ttaagtttta	tcacgatagc	gggagtggtc	ggcatactgg	cagtacgtgc	aagtaccgt	840
tgcctaaat	gtgggaaaca	tcaactccag	cgcagtagta	cgaaattgat	atcgaaccgt	900
aatggagtaa	agaccgagga	cattatatat	acctgccgca	attgcggaca	tactgtagtc	960
cgacgccaac	aatcgtatga	cgacaattac	cggggacgcg	gaggaggagg	tcttttcac	1020
ggaggattcg	gaggaggaag	ttttggatcc	ggcgggtggag	gcggtttcag	cggtggaagc	1080
ttcggaggcg	gttcgggtgg	cgggtggaggt	gccggctcac	gtttctaa		1128

&lt;210&gt; 4264

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4264

aaaagactaa	ttatgaatca	atctaagtgc	aggagccact	ttgtaatttc	tatcttttta	60
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tgctttatat	tgccttgtct	ggcgggttgc	aaaaagaaag	acatgtctct	taagcttaac	120
gaaccgcgca	atattaaagg	agtgggtgagc	tataaacgtt	cgtttggaga	tctgaatgat	180
gtacagttaa	aagcagcaca	tgcgtggggc	attgcaccat	tggcttcgcg	cgaagaagcg	240
gaagagatgg	atggaaagt	agttcatatt	gtcgataatg	acttttatgt	ggtagactca	300
ctcactcatt	ctattcccta	tttagtgccg	cgcgccagt	cgttactcga	tacgatagg	360
gcaaatttct	tggattcatt	gactgctaag	gggtcaatc	cgaataaaat	tattgtaact	420
tccgtactta	ggacggagaa	tgacgtaaaa	cgcttgcgtc	gtcgaaatgg	gaatgcacgc	480
aagaattctt	gccattttta	cggaaactaca	ttcgatgtga	gttggaacg	gtttaagaaa	540
gtggaagatg	aggatggacg	tcctcttcag	gatgtgagtg	ctgatacttt	aaagctggta	600
ttggccgaag	tcttgcgggg	tgttcgtaag	gcggataaat	gttatgtaaa	gtacgaattg	660
aaacagggat	gttttcacat	aacaacacgc	taa			693

&lt;210&gt; 4265

&lt;211&gt; 1023

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4265

attgattcaa	tgatagaaaa	actgatagtt	cttgaggata	ttgatccggt	catcttttac	60
ggcgtaaaca	acgccaacat	acaattaata	aaagctttgt	atccaaagct	acgcattggt	120
gcccagggca	atgtcatcaa	agtgtctggg	gatgaggaag	aaatgtgcgc	ttttgaggac	180
aatatcacca	agcttgaaaa	atattgtgcc	gaatacaatt	cgctgaaaga	agaagtcatt	240
atcgacatca	ttaaaggtaa	tgcaccacaa	gctgaaaaag	cgggaaatgt	tattgtattc	300
agcgtcacag	ggaaacccat	cattccacgt	agcgaatacc	aactgaaatt	agtggagggg	360
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ctgaagggaat	atatggaact	gaacatcatt	cagatcgctc	cgctcgcttt	tatgcgcgga	660
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attaaaatgt	tcctcaccgg	tatgggaatg	aatactaaga	tgatcattac	cggtgacatg	780
accagatcg	atcttcgggc	ctcacaacaa	tcgggattgg	tacaggcatt	gcgtattcta	840
aaaggagtga	aaggaatcag	ctttgtcgaa	ctgaataaaa	aagacattgt	gcgacacaag	900
cttgtagaac	gtatcggtga	cgcttacgaa	aagttcgata	aggaaaagaa	agccgaacgg	960
gaaaaattaa	acggtgaacg	gcttacaata	agtaaagaac	ggcaaacgt	tggtaatttg	1020
taa						1023

&lt;210&gt; 4266

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4266

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cttgacagaca	ccttacggaa	tatccaatcc	cgtctggaac	aggcacataa	agagctgaaa	360
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cctcaactaa	agatcttgtt	cacagtcagc	cccattcgcc	acatacgaga	cggatgcac	600
gccaaaccaac	tcagtaaaaag	cgtgctgctg	cttgccatcg	accgactgat	gcaacggtat	660
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atacgaagag	cgattgcgca	caaacccttt	catcccgagt	cggaagagca	taaaagattt	900
ttaggacaaa	ttgtgttaaa	aatagaacga	cttaacggaa	aataccgta	cttagatttc	960

gaaaaagaaa caaacatgtg ccgattggcg cttcaataa

999

<210> 4267

<211> 240

<212> DNA

<213> B.fragilis

<400> 4267

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attatcatcc	tggttggttat	actcttgctt	tttggtggta	aaaagattcc	cgaactgatg	120
cgcgggctcg	gcaaaggagt	gaaaagtttt	aaagaagggg	tgaatgaagc	caaagaggaa	180
ataaaciaag	caaaagaaga	aatcgacgaa	ccggaaaaca	aagaaaagaa	agataactga	240

<210> 4268

<211> 186

<212> DNA

<213> B.fragilis

<400> 4268

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tatcacatga	ccaatcggtt	tgactgccaa	aactttaatt	gtacttatag	gtcctacagg	120
tgtaggaaaa	acggagttaa	gcctccgcat	agcagaatat	ttcaagacga	gtatcatttc	180
gtctga						186

<210> 4269

<211> 408

<212> DNA

<213> B.fragilis

<400> 4269

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aaagaagaag	agattatggg	atctttctgg	gagaaggggc	ctttgtttgt	gaaagagata	120
ctggcatttt	atgatgagcc	aaaaccacat	ttcaatactt	tgtctacaat	tgtgcgcgga	180
ttggaagaga	agggcttttt	agcacatcat	acttatggca	atacctatca	gtattatgcg	240
gtagtcagcg	aatcggactt	tagtaaacgt	acgctgaaaa	gtgtaattag	caagtatttc	300
aataattcgt	atctcagtcg	tgtgtcgtca	ttggtgaagg	aagaagatat	ttcgcttgac	360
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<210> 4270

<211> 1314

<212> DNA

<213> B.fragilis

<400> 4270

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ttcgggttta	tcaacatacc	aaaggggttg	ctgtacgaca	tcgtacggca	tccccctttg	180
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catacccgtc	ttcaacactc	tctgggtgcc	ttctacctga	tgagcgaggc	catcacacaa	300
ctagcttcca	aaggttaact	tatatctgac	agtgaagccg	aagccgtaca	ggcagccatc	360
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cagttagtaa	gccgacaact	ggacatggac	cgttttagatt	acctgcgtcg	tgatagcttc	600
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gcagacgata	atctggtagt	ggaatccaaa	ggaatctatt	ccatagaaaa	tttctgact	720
gcaaggcgat	tgatgtattg	gcaggtttat	ctgcacaaaa	catcggtagc	ttatgaacga	780
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&lt;210&gt; 4271

&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4271

cgcggtttcga	cogtgacccg	cgccgtaacg	ccaaagacgg	aaatggaaag	gacgaaggcg	60
gaaacggaaa	ccggaaaaag	aaaaagaaga	ataataaccg	cccgcaacaa	gctgccaatg	120
gcgaaacaca	gagttcacag	cccactccga	ttaatgcaca	ggagaacaac	ggttctcagc	180
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accaaccacg	taaaaataat	gagtctcgtg	aaccgcgtag	caacgagaac	cgggaaaacg	300
gtaaaaacga	accccggtga	cagcgccctc	ctcgcgaaac	acgcggaccg	cgcaacaatg	360
aacaacctaa	acgtatcgag	aaagctcagg	aaaatgaaaa	gcctgctcaa	gaatagcatt	420
tgcatgctcc	ttaccacatg	ggttctgact	gcatgtgacg	aaaatactgt	gtatcactct	480
taccaatcca	ctcccccgga	tggtatggaag	aagagtgata	cactcttttt	caacgtgtct	540
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tatactttca	agatagtaca	cgaaatgaag	aatgaacaac	taaccgggat	cagtgatgtg	840
ggattgaaaa	tagaacattt	atag				864

&lt;210&gt; 4272

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4272

ttgaatgacc	acccgtggaa	cttccacccc	gtggtgaaga	ccgcagattc	tataaaagtg	60
gtgttgggga	tgggaagagga	cttggccgga	gccggttaca	acgttaacca	gtcgaagatt	120
gcgattgggt	cggagggtt	gacgggtaaa	ggttttctga	atggtacaca	aaccaagctg	180
aaatatgtgc	ccgaacaaga	taccgatttc	attttctgta	ctgtgggtga	agaacagggg	240
tttgttgggt	cggcagccgt	tcttttgctt	ttcttggcat	tgatactccg	tcttatagcg	300
acgtcagagc	ggcagacttc	tactttcggt	cgggtttatg	gctattcggt	tgtgagcatt	360
ttcctgttcc	atttgtttat	taacatcgga	atggtacttg	gtctgactcc	tgtaatcggt	420
attcogttgc	ctttcttttag	ttatggcggg	tcactcttat	ggggattttac	gattctgctt	480
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&lt;210&gt; 4273

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4273

cagaagggtta	aatcaagtta	taggaagagg	aaaaacaaaa	ggagaaaaaa	gattgagaat	60
gaagaaaata	gagaaaaaag	ggggtatttt	ctgggaaaag	ggataagtgc	tggtccgaaa	120
gggatcggtt	cgattaaagc	aagtatatag	acgattaaag	caggtatgag	tgtgattagg	180
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agagcaggta	taggtgtatt	taaagcaaat	gccggtgcaa	tccggaagaa	catttgcgat	300
caggaaagtt	tcattataaa	gtattttcat	aagcaaaatt	tagggtaa		348

<210> 4274  
 <211> 303  
 <212> DNA  
 <213> B.fragilis

<400> 4274  
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 aacctaattgg aacgcattccc catcctttac cggaatcctt taataatgaa accatgcgga 180  
 atcattatgc tatcgggtat taatctttct ttcgaaaggc tatccccgag taaagggcag 240  
 gttggatacg tgttactcac ccgtgcgccg gtcgccagca aagaaagcaa gctttcttcc 300  
 tga 303

<210> 4275  
 <211> 192  
 <212> DNA  
 <213> B.fragilis

<400> 4275  
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 cggatcaatg gtcatttgca cctaccgaa gcttatcgca gcttatcaag tccttcacag 120  
 cctccgagag ccaaggcatc cgccatgcgc ccttattttac tttctttttat cgccagggat 180  
 catttccttt ga 192

<210> 4276  
 <211> 1089  
 <212> DNA  
 <213> B.fragilis

<400> 4276  
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 cgtttcatct ttttttcgta tttttgtccc aatatgcac cttctgcaag gatagcaaag 120  
 acgaataaaa aaataatgag agtaattgat ttaatacata gcaacgaaaa aacagctttc 180  
 tctttcgaaa tactccctcc tttaaagggt acgggcatcg agaagttgta ccaaaccata 240  
 gataccttac gtgagttcga cccaaagtat atcaacatca ccactcatcg cagttagtat 300  
 gtatatcggg atttaggcaa cggacttttt cagcgcaacc gcctgagaag acgtccggga 360  
 accgtagctg tagctgctgc catccagaat aaatacaaca tcacagtagt accccacatt 420  
 ctgtgtagcg ggtttacaca ggaagagaca gaatatgtac tgctcgacct tcagttcctg 480  
 ggtattacag atctattagt gcttcgtgga gataaagcca aacatgaaac cgtgtttact 540  
 cctgagggag acggacatca tcatgctttg gatctgcagc aacaaatcaa taacttcaac 600  
 aaaggatatt ttgtagacgg atcggagatg aaagtgacta atactccttt ctcatagcgt 660  
 gtggcttgct atccgaaaaa gcatgaagaa gctcctaata tcgatatgga tatctattgg 720  
 ttgaagaaga aagtggaagc cgggtgcagaa tatgccgtta cccaactgtt ttacgataac 780  
 aaaaagtact ttgaattcgt agaaaaggta catcaggcag gtatcgacat ccctatcatc 840  
 ccgggtatta agccctttta aaagatatca caactgaata tgggtgcctaa aaccttcaag 900  
 gtagaccttc cggaagagtt gaccaaggaa gcaactgaagt gccaaaccga tgaggaagcc 960  
 cgtcaggtag gcatcgatg gtgcatcagc caatgcaaag agttgatggc agccgggtgtg 1020  
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 atttattaa 1089

<210> 4277  
 <211> 183  
 <212> DNA  
 <213> B.fragilis

<400> 4277  
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 cagtactggt tcgctatcgg tctctcggga gtatttagcc ttaccggatg gtcccggctg 120  
 attcacgcag aattcctcgt gctccgcgct actcaggata ccactacgct tcgggttacct 180

tag

183

&lt;210&gt; 4278

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4278

cottaccgga	tgggtcccggc	tgattcacgc	agaattcctc	gtgctccgcg	ctactcagga	60
taccactacg	cttcgggttac	cttagaatac	cgggctatca	ccgtctatgg	cacgaacttc	120
cagtcgtttc	ttctcaataa	ctgtcttgcg	agagcgtggg	cctacaaccc	cacacatgcc	180
gtaacatggg	tgggtttgggc	taatccccgt	tcgctcgcca	ctactagggg	aatcattatt	240
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&lt;210&gt; 4279

&lt;211&gt; 1479

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4279

agcaataact	ttaaaataaa	gtatatggaa	tttaaactgc	ataatgggag	cggaggtctt	60
tgttgttaaa	gctgttcccg	acaagataaa	aaactaaaca	cctatgattg	gctggccgac	120
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cgtacacgtg	gtgaacgtcc	gaaaaacaat	aatcgcaaca	acaaccaacc	acgtaaaaat	1320
aatgagtctc	gtgaaccgcg	tagcaacgag	aaaccggaaa	cgcgtaaaaa	cgaaccccg	1380
gaacagcgcc	ctcctcgcca	accacgcgga	ccgcgcaaca	atgaacaacc	taaacgtatc	1440
gagaaagctc	aggaaaatga	aaagcctgct	caagaatag			1479

&lt;210&gt; 4280

&lt;211&gt; 1113

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4280

gccatgtttt	tcagagacgt	catcggacaa	gaagaggcca	agtatcgact	gatacaagaa	60
gtcagcgaag	gacgtatccc	ccatgcccag	cttttttgtg	ggcccgaagg	ggtaggcaag	120
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ttgggtgttaa	acaatcccta	ttttaccatc	aatcattggc	tgaacgaaat	aaatgcagaa	360
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aaatccagcg	agggcggatt	taagattaca	ctcctctggc	tgccggaaaa	gatgcaacag	480
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tcgctgaaga	tgatcgtact	gttaaagcaa	taa			1113

&lt;210&gt; 4281

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4281

tcccagggat	catccagcgg	gattgcccgg	gccggcggatt	tcgtcgcccc	cggggcccctg	60
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cctttgcgag	gagatgacct	gacaggccgc	ccggtagtca	cgggggattt	aaatagaata	180
atagttcccc	ccccaggggg	gagtttgcca	tttttcgccg	gtccatacgc	cctgcaggga	240
aatgggggtt	tagtgtttcc	ggtaatgcac	ccgatttatc	aatttcggtc	ttaa	294

&lt;210&gt; 4282

&lt;211&gt; 2487

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4282

gtagcgcgg	ccttccagcc	ccgtgggtgaa	gacgaacgat	taggaatacc	ggcattcaaa	60
ctggccgacg	gtccgctggg	cggtgcatcc	tggggattat	tcggacgcgc	caccgcattt	120
ccatcagcac	tttcgctggc	tgccctcttg	aataaaaatc	tggcagagaa	aacaggagca	180
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gcatccgaga	tggtagtccc	ctttataaaa	gcagtgaag	acggaggagt	cattgctacc	360
atcaaacatt	tcgcagccaa	cgatcaagaa	tttgaccgat	acaccgtcag	taccgaagta	420
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&lt;210&gt; 4283

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4283

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&lt;210&gt; 4284

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4284

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aatcgggtgc	attacccgga	acactaa				1047

&lt;210&gt; 4285

&lt;211&gt; 1449

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4285

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&lt;210&gt; 4286

&lt;211&gt; 3309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4286

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&lt;210&gt; 4287

&lt;211&gt; 2823

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4287

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&lt;210&gt; 4288

&lt;211&gt; 675

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4288

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&lt;210&gt; 4289

&lt;211&gt; 1320

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4289

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&lt;210&gt; 4290

&lt;211&gt; 3684

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4290

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&lt;210&gt; 4291

&lt;211&gt; 2445

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4291

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&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4292

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&lt;210&gt; 4293

&lt;211&gt; 255

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4293

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&lt;210&gt; 4294

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4294

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taa						963

&lt;210&gt; 4295

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4295

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&lt;210&gt; 4296

&lt;211&gt; 1647

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4296

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&lt;210&gt; 4297

&lt;211&gt; 1599

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4297

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&lt;210&gt; 4298

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4298

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&lt;210&gt; 4299

&lt;211&gt; 3252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4299

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&lt;210&gt; 4300

&lt;211&gt; 2586

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4300

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&lt;210&gt; 4301

&lt;211&gt; 1650

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4301

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&lt;210&gt; 4302

&lt;211&gt; 2076

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4302

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&lt;211&gt; 1566

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4303

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aaataa						1566

&lt;210&gt; 4304

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4304

cacacagaaa	acagaaaagc	gaaaatagaa	ttacggcttt	tttcatggta	tcgactaatt	60
aatattttatg	ttatcgggag	caaagatagt	attttttatt	atataacgg	tatgttaatt	120
aaatattttta	ttatatacgg	tcgatttaat	aaacaagaca	ctattcgacg	caaagcatta	180
aaccatcgga	ataa					195

&lt;210&gt; 4305

&lt;211&gt; 2022

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4305

agtattatga	agcttaaaaat	aaaaaatctg	tttgtacaag	catgttttgt	tgcgggagg	60
gtaatggcgc	tcacgtcctg	taatgacttt	cttgatagag	aacctcttct	ttctgtcaca	120

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ccggaagtct actttcaaac ggtggatcac tttgccgctt attccatagc gaggtatcaa 180
aactattttc cttcgcatgg tgggttatgga gcaggtatag cgaataacga tgggtgaacg 240
gataaatatgg tggccggagg gcgtagtagt cgctatgtaa aagggccttg gaaagttcct 300
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gctgtgccta aatatgaagc ggggtgaggt gccggagcag atgccgatat tcgtcattat 420
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gactttccga tcgtaacaga ggttttgccc gatgacaaaa cgggtgctgat ggaaaaaggt 540
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cgtgagatgg aattgctgtc tccggatgaa aaagcagaga catctgtatt gtatcagaat 1980
ccttattggt caactaagat tggggaagtg gctgaagaat aa 2022

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&lt;210&gt; 4306

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4306

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aaacgaatga agaaaatttt attaatgatg ttgttgctcg cctcaatggc gagcaacgca 60
caggaaacgca aatattctac gttctattat caacgtgcaa ctctgtttga ggagttgcct 120
gtgacttcaa aagatatcat ttttctgggt aatagcatta ccaacggggg agaatggagt 180
gaattattga ataataagca tgtcaagaac cgaggaatca gtggtgatat ctgtatgggt 240
gtttatgatc ggctggatgc gattttgaaa ggaaaaccgg ccaaaatatt cttgttgatc 300
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ccggtaaccc atcattataa gatgtttggc ggacatacgt cacgctggca ggaagtgaag 480
aagatcaatg aaggactgat gtatcttgct gataaagaga atgtgaccta tatcgatctt 540
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ttacatttac tgggaaaagg ctacttataa 630

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&lt;210&gt; 4307

&lt;211&gt; 3282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4307

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aaagcaatac ttatgaagaa aaccatcttc ttgattttgt gcattttatg ttctcttggg 60
gccatggcgc aaaagaaatc tatcacgggt gtgattacag atggtgccgg tgagtcaatc 120

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attggtgcaa gtgtcgttga agttggtaca actaatggta ccataactga ctttgacggc 180  
 aagttctctt taacgatagc tactggtgct aaattttacag ttagctatat tgggtataaa 240  
 tctcagacga ttactggttg tgctgaaaat acctataata tagtactgaa ggaagacaca 300  
 gaagtgttgg atgaagtagt gataacagga tatggagggt caaaaagcg tgctactttg 360  
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 ggacaatcct tgcaaggctc tctaacagga ctccgtgttg ttaacaaaac aggtcaaccc 480  
 ggtagtgaac cggatattac attacgtggt ggtgccacta ttacaggtga taatagtaaa 540  
 gcacttatcg tagtcgatgg tattgtccgc aatagcatga gcgatataa tccttccgat 600  
 attgagtcga ttcaagtcct taaagatgct gcttcaaccg ctatttatgg agcgcgtgcc 660  
 aatggcgggtg ttatttttgg tgagactaaa agtggtaaag aaggtaaagc atctgttaac 720  
 tataaattca aaatgggtgt gaatttcgct cgtaaagggt atgacttttg cgatgcgcac 780  
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 tcacctgaac cggctgtaga tacgacttat ggccgtggaa tagataacgg ccgttatcct 3240  
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&lt;210&gt; 4308

&lt;211&gt; 1305

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4308

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gatataaaag	ttggatgtta	tttctctttg	agagagtggg	ataaccact	atataataaa	420
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cgttataaac	cggatctgat	atgggctgac	ggtcccgatc	agataaatga	taaacagtgg	540
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aaacaaaaag	gtaatgatat	tgaagtaatc	atgcctcttc	tatatgttga	tgaactacct	1260
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&lt;210&gt; 4309

&lt;211&gt; 2019

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4309

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tcttcgggtc	gggcagggtga	atatcacctg	ctcccggaac	cgcaaaagtt	taccctctta	120
ggttccagtt	ttgtgctggg	cagaacaaag	ctttctactc	cggtgcttcg	gcaagagtgg	180
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&lt;210&gt; 4310

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4310

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gaaggggata	aatctagtat	aaaaatcaga	ctcattcatt	tactaaagaa	tgaattaatg	180
atatttttcc	aaaatccaac	agaagtgaga	tgttga			216

&lt;210&gt; 4311

&lt;211&gt; 1557

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4311

ataatttgta	tgagaaatct	ttttaaaatt	gccggtttac	tgccgctcac	gggattttatt	60
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&lt;210&gt; 4312

&lt;211&gt; 1590

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4312

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&lt;210&gt; 4313

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4313

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&lt;211&gt; 3357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4314

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&lt;211&gt; 3309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4315

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&lt;211&gt; 3363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4316

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taa

```

&lt;210&gt; 4317

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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 ctaaatcttt cgcttcttcc aatgtatagt atttaccgg catacgagtc gtgttcacac 180  
 tgtcattcaa catcggaaaa attttacttt gcaatctcca tgattgattt tcagtcagat 240  
 gccaatgaaa aacattaa 258

<210> 4318  
 <211> 1158  
 <212> DNA  
 <213> B.fragilis

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 ttggtgaaag agtcgtaa 1158

<210> 4319  
 <211> 1197  
 <212> DNA  
 <213> B.fragilis

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 tttgccggag agaaagcccc tgtttcgttc gcgatcaatc aactcggcct gggggcaaag 180  
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<210> 4320

<211> 1356

<212> DNA

<213> B.fragilis

<400> 4320

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<210> 4321

<211> 213

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (50)

<223> Identity of nucleotide sequences at the above locations are unknown.

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cgggttctga	acacccttat	atttctctct	tctcgtgacg	ccgacagccc	gaagaggtgt	180
gtgggtgttg	taaaaacgcg	atttgtgcga	tag			213

<210> 4322

<211> 1221

<212> DNA

<213> B.fragilis

<400> 4322

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ttgtccgggtg	aagtcgcgca	ccgcttcatt	cccagataagc	gtgtcatcct	ttgggatgtg	180
gattacgatg	tatccggaaa	gacgattacc	gtaaaggggg	caactacttc	gccggaagct	240
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acgaatccgt	attataacta	a				1221

&lt;210&gt; 4323

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4323

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tga						303

&lt;210&gt; 4324

&lt;211&gt; 1566

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4324

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gagtga						1566

&lt;210&gt; 4325

&lt;211&gt; 408

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4325

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gagaaaatcg	atcctcagaa	tttcgggttc	agtaaaccag	aagagtaa		408

&lt;210&gt; 4326

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4326

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&lt;210&gt; 4327

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4327

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&lt;210&gt; 4328

&lt;211&gt; 1320

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4328

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&lt;210&gt; 4329

&lt;211&gt; 1185

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4329

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agatataatg	acggaatcgg	tatgtccaat	gaagattgga	ccgggtggtg	ttctgttggg	780
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gataagcaat	attattatga	tttagaccgg	ttcatctatc	agataactgc	agggaaacggc	960
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cgcaactatt	ctgcctacgc	cgggatgttc	acgatgaatc	aggatacgaa	agggctttct	1080
acctatattc	cccgatgtgc	cgtccggtcg	ttgaataact	cttaccagca	gactgaatgg	1140
tataaggtat	ccggttgggc	ggataccggg	tggtataaga	attag		1185

&lt;210&gt; 4330

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4330

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actacgaata	aacaacttaa	aatcgtctct	gtgttactct	gtgtgctctg	tggtgagtat	120
ggccatacca	gcgaatcgcc	tgccgaaaaa	gtattcggta	gcttaataat	agctaaggaa	180
atcgaaaaga	gggtaccggc	aatcaaccag	tcggtactct	ttttgtttat	attagtagat	240
aataatggtg	aaaaagttgt	gaaaatttat	acgttaacaa	ataaatag		288

&lt;210&gt; 4331

<211> 906  
 <212> DNA  
 <213> B.fragilis

<400> 4331

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ggtcgagagg	acctcattac	tgtagaggag	gaagtagaac	tcgctcaacg	cattcgtaag	180
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ggactgatca	aagctgccga	gaagtttgat	gaaacacgtg	gcttcaagtt	tatcagttat	360
gctgtatggg	ggattcgcca	atctattttg	caggcattgg	cagagcagtc	ccgtatcggt	420
cgccttccgt	tgaaccaggt	cggttcgttg	aataagatca	gcaaagcctt	ctctaagttt	480
gaacaggaaa	acgagcgctg	tccgtcgccc	gaagagttgg	cagggtgaact	ggatattccg	540
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gcagaccgtt	ctctggttaa	tgagtctctt	gcgagggaaa	ttgatagagc	tctttctacg	720
ttaaccgata	gggaaaaaga	aatcattcag	atgtttttcg	gtatcggaca	gcaggaaatg	780
acattagagg	aaatcggcga	caaatttggg	ctcacacgtg	agcgtgttcg	tcagattaaa	840
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ggataa						906

<210> 4332  
 <211> 618  
 <212> DNA  
 <213> B.fragilis

<400> 4332

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acctacactg	tgactgccat	gaaagagaca	ctggatcggt	cgaaccttcg	tctgctgaaa	240
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attgtgcagg	gacatgtgga	tcagaccgcc	gaatgtatcg	atatcaaaga	tgacagcggg	360
agctgggtatt	ttacgtttta	atatgctttc	gacaaggaga	tggccaagcg	cggctatatt	420
acggctcgata	aggggttcggg	tacgggtcaac	gggtgcagcc	tgacgggtatg	caacccgact	480
gacgatactt	ttcaggtggc	gattatccca	tatacctacg	agcataccaa	tttccatact	540
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atgatccagt	acaaataa					618

<210> 4333  
 <211> 1584  
 <212> DNA  
 <213> B.fragilis

<400> 4333

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tccggttaacc	tgcaagccgt	atccgagatt	gagttgtttc	ttcaagtcgt	ccggcaactc	180
cttgaaggca	gcgcccagaa	tctccatacc	cgcacacctc	acaatctttg	ttgtaccttg	240
ttcggtttttc	aatgttatat	tgatattctt	ttctttcttg	tcacgcatca	ccttcacggg	300
cacttttatcg	cccggacgat	gctgtgcaat	ggcttctctg	aggtcggcaa	agttctgcac	360
tttcttgcca	tcgataccga	tgatgacatc	atctaccttg	atatcggaac	cggcagcaga	420
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atcggacagt	gtggctcccc	atttgtcgat	cggctgatcg	gacatcatat	caccgtcacc	540
cgcaagcgaa	gtacccttga	taccagcaa	cgcagcttgt	acggttccgt	attgtttcag	600
gtcgctgacc	acttttgtca	tcacactggg	cggaatggca	aaaccgtatc	cggcataagc	660
gcctgtaggc	gaagaaagca	cggcattgat	acctaccaat	tcaccttttg	cattcaccaa	720
agctccaccg	ctgtttccct	gattgatggc	ggcatctgtc	tggatgaacg	attctactcc	780

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<211> 387
<212> DNA
<213> B.fragilis
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<211> 570
<212> DNA
<213> B.fragilis
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<210> 4336
<211> 378
<212> DNA
<213> B.fragilis
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<400> 4336
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tcggtgctgt tgatggacga acctgcttcg gcgctcgacc ctatttcgac ggcaaagggtg 180
gaagagttga tacacgagtt gaaagaacgg tataccattg tgattgtgac gcacaatatg 240
cagcaggctg cacgtgtcag tgataagacg gcgtttttct atatggggca gatggtggag 300
tttggcgaca cgaagaagat ctttacgaac cgggagaagg aagcgacaca aaactatata 360
accggacgtt tcggatga                                     378
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<210> 4337  
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 <212> DNA  
 <213> B.fragilis

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 ttctcgatat acaatatcat caaaacgacg tatctctgcg tcaaccgctt caacaaagac 180  
 cgcattgtca ataaagcctc agcgtgacg tacagcaccg tgcctgccat tgtgcccata 240  
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 tttcgtgatg gcttcggagg atccaccgag gcgacggata ttatcctgca attcgtagac 360  
 tcatatctgt cacagaccaa aaacgggtatt tttatcggag tcggcctggg catgttgctg 420  
 tggaccgtac tcaacctggg cagtaacatt gaaatcacct tcaaccgcat ctggcaggta 480  
 aagaaagggc gcagcatgta ccgcaaaatc accgattact tttcaatggt cctattgatg 540  
 ccgatcctga tcgtagtata gggcgggtctt tccatctttg taggcacgat gctgaagagt 600  
 atggcgggatt ttgttttact tgcccctatc ctgaaattcc tgatccgtct gattccgttc 660  
 gtgctgacct ggctgatgtt tacgggactc tatatcttca tgcccaatac caaggtgaaa 720  
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 ctgtacatca gcagtcagtt gtgggtgtcc aaatacaatg ccatttacgg tagtttcgcc 840  
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 attcggctga ccaatcagat actttaccaa ctgcaggaga tacacctgat tcacgaagta 1140  
 gtcaccgatc aaaaaagcga ggatatcgca taccagcctt ccacgcacat taatcaactg 1200  
 aatgtagcgc tattgtctga ccggctggac acatacggct cagaagattt taaagtcgat 1260  
 aaagacgagg aattcagcga gcaatggaag gttttgcttg actccaggga agaattattat 1320  
 aaaaaggcaa gcaaagtatt gctgaaggac ttgtag 1356

<210> 4338  
 <211> 474  
 <212> DNA  
 <213> B.fragilis

<400> 4338  
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 gtatgcctgt tcactctgca aaccatcgca agagcggacg atgataaacc gattcaagta 120  
 agccagatgc cgcagaaggc acagcagttc atcaaacaac actttgccgg cagcaacatt 180  
 gccatggcca aagttgaaag cgatttctta cagaaaaagct acgatgtcat cttcaccgac 240  
 ggcaacaaag tagagttcga caagaaagga aactggactg aagtaaattg caaattcagt 300  
 gtagtccac agggcatcat cccctctcct atccaaaaat atacagccac taattatccg 360  
 gacgctaaag ttctgaaaat agaacgcgat aaaacggatt atgaagtga actatccaat 420  
 ggttgggaac taaaatttga ctctaaattt aatttaatcg atattgataa ctaa 474

<210> 4339  
 <211> 852  
 <212> DNA  
 <213> B.fragilis

<400> 4339  
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 aacgcattta cggaaaagta tccgtctgtc agcaacgaaa agtgggaaac aaaaggcaac 180  
 tattacatag cggaaattccg tcaacagaac tacgaaacct cggcctgggt tactccgaac 240  
 ggaatatggc aaatgacaga gaccgacctc ccttatcagg ctctgccggc agctgtgaag 300  
 agtgcattcg aaagcagtga atacgccaa gggaaagtag acgatgtgga catgttgga 360  
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ctgtattact	cggaagaggg	tatcctggtg	aaaagcggtg	cggatacggg	caacgattca	480
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gacggtaata	tcagtaaaga	aattgtattc	aacagctcta	acgaatggat	atctacttct	660
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tatctggttg	aactggaaaa	aggagaattg	gaagtgaaag	taaagggtga	cgctgaagga	840
gagtttatct	ga					852

&lt;210&gt; 4340

&lt;211&gt; 711

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4340

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ccctcactga	gggaactgat	ccagcggttcg	ctcgaaaaag	aacgctatgt	agtggagact	120
gccgcagact	tccagtcggg	attacgcaag	atagaggact	acgattatga	ctgtgtcttg	180
ctggacatta	tgttgccctg	cggcaatggg	ctgaacctgc	tgagcaact	gaaaaagatg	240
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gcccgcata	aaagtgtgat	ccgacgccag	cgccgcgacg	gagaaatgga	catacgcttg	420
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ttaaaccgca	aagagtatga	tatccttctc	tactttgccg	accgtcccgg	acgactggta	540
aacaaaaaca	cgcttgccga	atcggtgtgg	ggagatcata	tcgaccaggt	agacaatttt	600
gatttcatct	atgcgcaaat	caagaacctg	agaaagaaac	tcaaagatgc	cggtgccttg	660
gcagaactga	aggctgtata	tggattcggc	tacaaaatga	ctgttgaata	a	711

&lt;210&gt; 4341

&lt;211&gt; 285

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4341

ttatcgcgga	cgcataat	aagtgtata	ggactatata	taggggtgaa	gaattcaata	60
gaattaacgt	ttaagagtga	gaaagatatt	atgcgcgtga	tagatactgt	aactattact	120
atctcgaaaa	tggagattga	tttacctaaa	atagagattg	ttaagcaatg	tggatatgatt	180
gctgctaata	ctgtcttttt	aataaatagt	ttgacttcta	atattccata	tatgtttttg	240
gataggctca	ggggcgtaaa	agttacttgg	gataaaaata	aatag		285

&lt;210&gt; 4342

&lt;211&gt; 1158

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4342

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gctagttttg	caccaatttc	taccccaagg	gcaaataagag	caactgaact	ggcgaaagaa	120
tttgcgaaac	aagggtgttt	agttacagtc	tataattgta	cttcggttgt	agatggcaca	180
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aattttttctg	aagttaagac	acttgattat	gtacccaata	aaatacctac	atttatctat	720
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agattagctc	taatagaaaa	gttgagtgt	gctgattttt	taattaatat	gagcaatact	960
tcagccaatc	agatacctag	taagttgatt	gattatgctc	tatctcacag	acctatttat	1020
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accggttctg	aaaatatcaa	ccttagagat	tacgatatta	ctactatagt	aaatagtttt	1140
ttttcttttaa	tgcaataa					1158

&lt;210&gt; 4343

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4343

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agatgcagca	gtatcttcgg	atatcagttc	agcgagatag	tccgttcgct	gatgagcggtt	180
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&lt;210&gt; 4344

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (557), (601), (602), (603), (607), (608), (620), (621)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4344

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<210> 4345  
 <211> 276  
 <212> DNA  
 <213> B.fragilis

<400> 4345  
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 agcagttttc tcagaaaaac ttataacacg cttattatct gtatcataat tctaagctct 180  
 tcgttcaaaa cagggtgcata cacatgtacc caatatcagt taagttttag ttcacccgac 240  
 aaatgcatag ttccaatata gaaagtctca caatag 276

<210> 4346  
 <211> 954  
 <212> DNA  
 <213> B.fragilis

<400> 4346  
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 actttgagag ggggaggaat tattttcttc ttggcgcat tagcttactt tctgacgaat 180  
 cagtttgagt atccttgggt tatgctggct ttgacattga ttacttttat cagttttgta 240  
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 aatttccgga aacaggcaaa gtgttttgcg ggggatgtag gttcgggttag cattgctttc 600  
 gtgacctctt ttctgatcgg tatgctgata atccgtacgg aaaatttcag ctggattgtc 660  
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 gagaatattg gtttgccaca tcggaaacat ttgtaccaga ttatggcaaa tgagctgaaa 780  
 attcctcaca tgggtgggttc gttgggtgat atgttgggtg aggcagtagt tatagccggg 840  
 tatcttctat tcccggggaa tgaatatggg tatttgcggt gtaccattat tgcgctgagt 900  
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<210> 4347  
 <211> 762  
 <212> DNA  
 <213> B.fragilis

<400> 4347  
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 gtgattgttt cttctaattc agtttatcca ttaaagcagc aggaggaact taaaacttta 180  
 tataaagata ttaaatggag gtttaacgaa aagaatgggg gatttgctta tgctatgaat 240  
 caagggttat caatagcaga tgggtgatatt cttgtaataa tgaatcctga tgttaggctg 300  
 aaaacgggaa ttgaaaagat ggtaacttat ttgtactccc ataataaat aggagttatt 360  
 gtccttaaaa taataaatat taatggtaaa atacaagata gctttcggga ttttattaca 420  
 ccaatgaact tcataaaacg acatttgagc cgtatattca aatctactaa tcagattggg 480  
 attattgagg tcattagtca agtggattgg gtaattggag cttttatgat gatgccgct 540  
 caagcttatg aggtagttaa agggttgat gaatattatt ttttatattg tgaagatatg 600  
 gatttctgta agaggatata attggaaggt ttttctgttg tttattacc c tgaagtgaa 660  
 atagaatatg aaggaacacg ctctgcaaga cggctgttga aatatgcttg catatttttt 720  
 aagtcattgt tacgatattg gactaaattt ggattcaatt ag 762

<210> 4348  
 <211> 276  
 <212> DNA

<213> B.fragilis

<400> 4348

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ctggaacggg	atttaacgaa	ccgttctgat	gtatatatgc	ccttggagag	tatcatgttc	120
gctggctaca	acgcttacgt	gtttataggt	gatgagttaa	agtctgctac	gtttaaggat	180
acggagcacc	aggtttgcag	gtccatacga	aaagttgaaa	accgcaccgg	agaacgtttc	240
aaactatctg	aaagagggcg	tcaattacct	cgataa			276

<210> 4349

<211> 219

<212> DNA

<213> B.fragilis

<400> 4349

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ggatatggat	gtaatttttc	tggatcctaa	agacatagtc	ggggtgagta	taaaatagta	120
ggtcttgatg	tagagcaa	ttgggagtat	ggtaaagaac	gaggcgaaga	ttttttctct	180
cctattacta	gtgaggtaca	atatatagag	gaatcttaa			219

<210> 4350

<211> 252

<212> DNA

<213> B.fragilis

<400> 4350

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ctgagaaact	cacacctttt	ggaggaattt	tttcaatcat	ggagaaattt	gactccatgc	180
tttcacccgt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

<210> 4351

<211> 252

<212> DNA

<213> B.fragilis

<400> 4351

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gtgttgcaaa	aagaaaacaa	gcaaaactct	aatatgacat	ggcaaaaata	caaattaaat	120
ctgagaaact	cacacctttt	ggaggaattt	tttcaatcat	ggagaaattt	gactccatgc	180
tttcacccgt	tatcgactca	acactgggtc	agagatgcag	cagtatcttc	ggatatcagt	240
tcagcgagat	ag					252

<210> 4352

<211> 390

<212> DNA

<213> B.fragilis

<400> 4352

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ccaagctcaa	aaagagtc	atgtgcgttca	ataaaagggc	tgttaaaaata	ttccttaaaa	180
aataagtcta	tactatctaa	gtttagta	agcactatga	aacaaaaggc	agtcgttaaa	240
ataatcttaa	aattcagttt	caaacagaga	tataatgcta	aatggcaaa	taacgcaaca	300
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aaaagccatt	tccatttatt	tcttttatag				390

<210> 4353



<211> 1053  
 <212> DNA  
 <213> B.fragilis

<400> 4353

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ctaattacgt	cagtggttct	tataattttt	atctattgtt	tctgtcttct	ttttttgagc	180
tcgcatagga	ttttacctat	taaaataaga	aatatggata	ttctattgat	tatctttttt	240
tttatttatg	gagttcggat	gtactataac	atattttag	agcaacttta	tcagttatta	300
tttgtaaate	gatttacctg	tattgtatac	tatatgttta	tatgtatact	accctatgta	360
atttgccggc	ggattccttg	gaatattatt	aatttttagaa	aagtcttatg	gactctgtgg	420
tggtctattg	tgctagggct	tggtcttgct	ttaaaatcgg	tggtatctat	attagcctct	480
ggagatagtt	tctttaatgg	tagggctgat	gcgaataact	atttagatac	tatcgatat	540
gggcatacag	ggcttagcct	tggtcttatc	tgtttttcac	ttatttcttt	ctataaaaga	600
aataaatgga	aatggctttt	ttccattcct	atcatttttg	gattgggtatc	aatgggggta	660
gcaaatctta	gaagcccttt	tggtgcgtta	tttgccattt	tagcattata	tctctgtttg	720
aaactgaatt	ttaagattat	tttaacgact	gccttttggt	tcatagtgtc	attactaaac	780
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gaagatggta	taaaaatgtt	cttagagcat	cctattattg	gaaaagctat	tatacttacg	960
gatggtgaat	ttaggggatc	ttatgttcat	aatatattct	tggaggtgtt	tatgggatta	1020
ggattagtgg	gtggagggtt	atctcttcct	taa			1053

<210> 4354  
 <211> 192  
 <212> DNA  
 <213> B.fragilis

<400> 4354

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aataatgtta	gttttgagat	gctctataaa	tctcagaaaa	tggatatgac	atttagaatg	180
caaaagatgt	aa					192

<210> 4355  
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 <212> DNA  
 <213> B.fragilis

<400> 4355

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gggaatgaaa	tatttgctta	tctaaaggat	ggtaattatc	cgattgataa	gaactctgct	180
gaacgaagta	ttcgcaaaact	tatcacgtag				210

<210> 4356  
 <211> 1413  
 <212> DNA  
 <213> B.fragilis

<400> 4356

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tttaaatgtaa	tactagctat	agtggctata	ttttcagtag	tagcgacgaa	tttgggagct	180
aaccatgtaa	taacaagaga	ggttacttta	caccccgata	acacgaagg	aatttggtat	240
aatgtaatac	ctttaagggt	aattgcatta	gcgattgctt	ttcttggtgt	ctttgtttat	300
atagtttgtg	ggaaagatgt	gtcatttagt	tcgagctttt	atatttttat	tttgatattt	360
gccacatctg	tttgggattt	tgctgagtc	gttgctttttg	gtcgttttagt	aactaaatat	420

actacttttt	tcaatctttc	attttcatgt	tcttggttgc	tatttgttct	ttttctgcca	480
gaaagtatt	ttagtataga	agttgtattg	gttatttatt	ctctgttggt	tgtatgtaaa	540
tcgattgggt	atttgggacg	ttcttgtgag	aaatttgtaa	aaactacttt	gccagttata	600
tcattgacaa	aacgatcttt	atttatgatg	agtcttcctt	atttatggat	gagagtgttt	660
ggaatatttg	gtgagcaaat	tccaattcta	atcttgaata	ataaatgtgg	aactgatcaa	720
gtaggctact	tttcggttgg	cttccgattg	attattccaa	ttaccatcgc	tataaataca	780
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tctgagaaat	taataaagggt	ttttactttc	gtaatgattt	gggggactct	agtagcaggt	900
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tttgctatgt	ctgttacctt	atttatttca	ttattcattc	ttaaattact	actattttata	1320
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&lt;210&gt; 4357

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4357

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gcgagacaat	cgcagttgaa	aactaaagag	ggaaagaaac	agtggcacct	gactctgggtg	120
aaagttggaa	aaatggtaac	ttcacaacag	ttggccgaag	taatagctga	aaaatcatcg	180
ttgacaccgg	gtgatgttca	taatgtgatt	cgtaacttga	tgactgccat	gcgtaaagaa	240
ttgttgaata	gccgttcggt	acgtttggag	ggattaggca	ctttcacgat	gaaagcttgt	300
acacaagggc	atggagtgga	tcaagaggaa	gaggtgagtc	cgaatcaggt	ggcggctctt	360
cgttgctctgt	ttactccgga	atatactcgt	cccgcagcta	tcggcactac	ccgtgctttg	420
cttcagggag	tggaattcca	gaaagtcagt	gcgatagggg	gagcaattaa	tggcggatcg	480
ggtagtggag	atattgtgga	tgatccgaca	gcctga			516

&lt;210&gt; 4358

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4358

aggagtatag	gcttggcacg	gatgagccaa	aagggaatgg	cggagaaatc	cggtgtgagt	60
cttgctacta	taagccattt	tgaacaagggt	gtcaatcaga	acatgaccct	gaataatttc	120
atatcattgt	tgccgataat	cggcatggag	caacgtataa	atgattgcct	gagttgccca	180
tgccactaa						189

&lt;210&gt; 4359

&lt;211&gt; 243

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4359

ctcactttta	tattcttgat	agtgttcaac	ccactcttta	aacttatacc	catcgttata	60
agttatagta	atagctgcaa	tattcatatt	ttatttttat	atatcaatga	acgtactcct	120
actatacatt	gcctaatagg	attattttgga	ataaatccca	ccaccaagaa	aggtaatata	180
aatagtagta	atttaagaat	gaataatgaa	ataaataagg	taacagacat	agcaaacaaa	240
ttaa						243

&lt;210&gt; 4360

&lt;211&gt; 183

<212> DNA  
<213> B.fragilis

<400> 4360  
ataaaaaatta taagaaccac tgacgtaatt aggcttatag gcagaaaagc tccaaagaaa 60  
gttctttaat caaaagcaaa aacagctaata atagtacaaa atacgggata ctttaacctg 120  
tctgagattt taatttttaa atctatcata tttcaatata tcatgatata tattatcaat 180  
tga 183

<210> 4361  
<211> 918  
<212> DNA  
<213> B.fragilis

<400> 4361  
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tcagaagatg aatatatggc gcaactgaag tcaactttta cagattctat aattatcgaa 180  
agaggtaaaa atggcgggtg tactcatgct tataatgatg gaattagata tgctcttaat 240  
gataagcatg ttgatgcaat tatgttgata ggaaatgata taaaattatc ggttcatggg 300  
gtgaaagggt tgtatgattt cttaatgtct aatgctgaat atgggatggg tgagcctata 360  
ctattagcga aagactctga tattgtggag gactttggta atgagatatc gaggtatttg 420  
cagatgaaac cttttgcagt agggcaaaat atcggtaatt taacaggaga tgaagtcaga 480  
actgtattta ctgtaactgg tggcatgaac ttggctaata gagagtttta tgagattgtg 540  
ggattgcaag atgatctatt atttatgtat tcagatgaag tggatatggg aattagagct 600  
aaacattgtg gattcactat ggctgtgact aaaaatatc aagcctggca tcaacatatt 660  
aatcctggag gaactgtacg tagacagatg tatacatctt atcttatagg tcgaaataag 720  
gtatatcttg cgaataagca ctttggccgt ctgcggcagg tggaaattgtt cttatatcat 780  
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ttgattcaat tcataaaagg ttcgtggaat ggtcttatag gaaaaatgtc attagttgga 900  
ataattaaag ggtattga 918

<210> 4362  
<211> 264  
<212> DNA  
<213> B.fragilis

<400> 4362  
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agtggagata tgtccgaaga tcgtaaaagc cgttatatca gttatctcgt tgactacgtc 120  
aatgagaccg agttggacaa gaaagcgtg gaacttgtct tggaggattt tcttagtgcc 180  
tggaacgata tgaaagctga actggctgag ttacaaagga gacaagacga aatggttttc 240  
caaactacag gagtcagcct ctga 264

<210> 4363  
<211> 234  
<212> DNA  
<213> B.fragilis

<400> 4363  
cgaaacagta tgctctactt cggcagtgac gagggagtag agatggttgc cacgtaccat 60  
agcctaataca gtactgtgaa gatgcagggg cggttcgttt gggagtttct cagtaagttt 120  
tttactaata tttttaacgg ttgcagagat tatttgaatc tctcaccaaa aatatcggac 180  
tggtactatgg caatagtaaa taaatcactg aatcttttaa caaaacaatt ttag 234

<210> 4364  
<211> 984  
<212> DNA  
<213> B.fragilis

&lt;400&gt; 4364

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ttaggagaag	tagtggcatc	tcttgatttt	tttgtttcag	ttggggctat	tgattatgga	120
tatattattg	ataatggttg	tatccttcct	ttctatataa	aaaagaaatt	cctttttcgt	180
tatatgattt	tttcaacggg	tatattaaat	tgttcgtcct	ctgaacaaga	acaagtgttt	240
ttagaccggc	ttattccatt	tgtgaaagag	tcatttataa	ttgattttat	attatcgcaa	300
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aggaatgtaa	ttagaaaaagc	agagaaaagat	gggggtgatta	ttacttgagg	ggatgacaat	480
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aatgataatg	ttttttctaa	tttaggtaat	gttaagtatg	tggactattg	gctggctact	600
cttaataatg	gaatagaggg	tggggcaata	atataattggc	atccgaattg	tggtgcctat	660
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gaacgtaaaa	gaggtaatat	atga				984

&lt;210&gt; 4365

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4365

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atttatcaca	tgggggatga	tgaagcttta	tcaacaaatg	agttgattgc	catcatgtgt	780
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&lt;210&gt; 4366

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4366

ggacatactg	tcgacggagt	atgcagcagc	agtacacatc	gtactgatga	tatagagggg	60
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gacattactg	ttggatgtag	cttggtgatt	gaggggccag	ctgaggtggc	actacattgg	180
atgacaggac	ggcgaacgag	agagtttttag				210

&lt;210&gt; 4367

&lt;211&gt; 1038

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4367

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acgtcatcta	aagctacttt	ttttattgat	actattttatt	tgaataaaact	tagaaatagt	180
aatgatataa	aaaataaaaat	attattttgat	aatatagtaa	accaactaaa	aagaattggt	240
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ggagatcaat	gggtattttcc	ttcttacgca	cattataaat	tgggcagttt	atctgatgaa	360
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aagttgagga	atctattttgt	agcaaacaat	atacttatag	attcatcagt	ggtttctgga	540
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acaatattga	ataaaattct	taaattggtt	gttggacagg	ggcagtatgt	tcaatattcg	840
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tttattttcat	tggttgcgca	tccaaaaaca	ttgacaaagt	cttctctaga	tgcaataaaa	960
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aaatatgata	gatttttaa					1038

&lt;210&gt; 4368

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4368

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gataataccc	tctccattct	taagtcctat	catgatagga	ggatcattat	atttactaat	180
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attatctttc	tttcagacca	agatgatatt	tgggagttta	ataagggtcca	agtaatgata	300
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aatgcttctc	cgacactaga	aaatagta	ttgccattat	tgtatagggt	acagtatcga	660
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&lt;210&gt; 4369

&lt;211&gt; 804

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4369

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gccacactgt	tccttttgaa	aagagaagaa	gccgtgttgc	tgttcaaact	ggtcaatgac	600
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caaaacacgg atataggcac gtaa

804

&lt;210&gt; 4370

&lt;211&gt; 1002

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4370

agaccagaca	cgggaatgga	aacaaagagc	caaaatttaa	aagacaaact	gtatatgtgg	60
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aaagtggaga	atgtggtgaa	gtatgtgaaa	gagaattttc	tggtggcccg	tggtttacag	840
gatatccccc	ggctgaatga	ggaagcccg	aaatggcttg	aaaggacggg	taatggaaaa	900
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&lt;210&gt; 4371

&lt;211&gt; 1779

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4371

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gagggagtat	acccctccct	tatggtatcg	gccgatgatg	tcactgacgt	gacgggtgga	1440
gatacccaatc	cgtgaaaaac	gggtaaaaac	cttaccggctt	ttgacatttg	ccgcaactat	1500
gaaggagacg	gatttggcga	ctggaggctt	ccgcggcttt	ccgagctggc	tttgccttat	1560
ttaaacagag	ggagcctgga	ggcaatgaga	gggtttgctc	cactaagcgg	aacttactgg	1620

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agcggttcgg aatatctggt aagtgattcg aaggtagata aaagacactc cgaacaggct 1680
tggggaatca actttgatgc tacgaatccg ggcaatgcgg caccctatga caaaacaacg 1740
aaaaaattta aaatccggtg tgtacgacaa acgcagtaa 1779

```

```

<210> 4372
<211> 195
<212> DNA
<213> B.fragilis

```

```

<400> 4372
caacccaaac acggatatag gcacgtaaaa agagttaagg aaagtgaagc atcttcgatg 60
ctggagtggg atatactaaa ttacctaaaa aagtggcgca caaatttgcg cgccacaccc 120
tatatcgaag ttacttcggt tggtaatgct ccttgcggtg gtgctgttat tgtcttcctg 180
ccgtcaggac gatga 195

```

```

<210> 4373
<211> 645
<212> DNA
<213> B.fragilis

```

```

<400> 4373
ggagttcgct gtggaaaaag gatacctgaa ccttattatg gtctacccga gccaccacag 60
gagcagatga aagaatatca cgtgcgtaag gacaacacgg tccagtatag ggggaattat 120
tacagcctgc catgcggcac ttaccggagc gggcagacga gggctctggt gcaggaaact 180
gaggggtatg tggaactgta cagcaaggag acgggaaaaa tcgtcgccag acatcccctc 240
tgtacccgaa aaggaaaaac gatttatgac gaaagacaca gaaggcccaa gagtattggg 300
gcacagaagc tggccgaacg tatccttggt tatgtatccg gaaaccggga ggtcgccttg 360
tggatggaga acctcaagag aaagaaagaa cgctattaca aggataatct ggaagtgggt 420
ctgcacatga tgccgggcta tgacaaggat atcttgatag aggcagtgca catatgtctt 480
gataagggca tctacaatgg cgattccgtt aaaagcctgt gtgaacacgt gcacaggaga 540
cggaataaag aaactgaaac agacaggacg gacagttgcc cgccgcgaca aaccgggctg 600
atacagtctt acaatgaaat cttccatggc tatgataaaa cataa 645

```

```

<210> 4374
<211> 372
<212> DNA
<213> B.fragilis

```

```

<220>
<221> unsure
<222> (365), (366), (367), (368)
<223> Identity of nucleotide sequences at the above locations are unknown.

```

```

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aatccggtgt gtacgacaaa cgcagtaaat gaaaaaatat catatacaat aaatatggat 60
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gcaggagcct gtgataatag tgaccggatc gagacagaga ctgaggcaaa cgggtgtgctc 180
ctgaatttca atgcgtcgac gattgatgca accactactg aaacaagaag ttttgttccc 240
attgaagggt ttgccaaaaa cgaatatatt tttggcatgt ctgtcaccaa agataatgca 300
tcacggggtg agatttttga aggatgcagc atggctcgtc gtggtggaag gtcacgcggt 360
caatnnntt aa 372

```

```

<210> 4375
<211> 219
<212> DNA
<213> B.fragilis

```

```

<400> 4375
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```

gctacaaaga	atctacggaa	tgaccaaggg	atagcatcgg	tttgtaagca	gggacctctc	120
ctctaccaca	aagacgggat	aagaatccct	tataaagggg	atttcaagaa	caatccccat	180
actctacttt	tgcagcagga	aatgatccgt	gaaaatttaa			219

&lt;210&gt; 4376

&lt;211&gt; 2259

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4376

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gcgcacgaaa	tcaccaccgc	ctgcgcttcg	caggagtctc	acatgtgttc	catcatcaat	180
gcccgcctcg	gacgggtgtc	ggaaaattgt	aaatgggtgc	cccagtcgtc	tcactacaag	240
accaaggccg	atgtatacga	tctgggtgagc	gcagaagagt	gcctgcgaca	agcaaaatac	300
aacgaagcac	aaggggtcaa	ccgcttttca	ttgggtgacca	gtggacgcaa	accttctccc	360
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&lt;210&gt; 4377

&lt;211&gt; 1470

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4377

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gccttcaacc	aagctgcca	gatgggtaac	gaggccgcta	aagccaacct	acagcaactg	1440
caacagatct	tgaatatgaa	gaaaaataa				1470

&lt;210&gt; 4378

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4378

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&lt;210&gt; 4379

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4379

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cctgctgctg	ttatcaatgc	attggccaaa	gattatgaag	gtgcttcgat	aaaggaggct	300
ttcgtttcgg	aaagagaaa	cggtaaggta	tataaagtga	ttgtgactgt	aatcaaggaa	360
gatcaatcta	cggaaagatgt	aactgttctt	ttgaatgaga	aaggtgagat	agtgaagaa	420
ttaa						423

&lt;210&gt; 4380

&lt;211&gt; 1365

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4380

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gccgaccgga	ttttagttag	cgtaggccgt	aaagcgaata	tcacccaagt	aggattggat	840
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&lt;210&gt; 4381

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4381

cccgatatca	ccatacggct	tatgaaaaaa	gaaaggtaca	tatcacattc	gtttatccgc	60
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tga						423

&lt;210&gt; 4382

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4382

ccgggaagaa	ctggaagcga	aaacgcattg	gggagaagaa	accagacgc	aacaacccaa	60
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ttagctagat	atatatttaa	tctactgata	gcctatgata	tttatctgta	taatctgtgg	180
tga						183

&lt;210&gt; 4383

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4383

acttttcggaa	cagacgcagt	gcccgcaccc	tcggcagcct	ttggagcaga	cgccgtttct	60
acagagcctg	cgggtttccga	tgcttctccg	gaaccttctc	catccatata	tacaatggca	120

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ctttcgccca	acttgggcat	ttttatttcg	aatcttgcca	tatacacaat	tattttattct	360
ttcacttgta	caagtagaac	aagattgtga				390

&lt;210&gt; 4384

&lt;211&gt; 3132

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4384

ggtatgaaga	ccaatttacg	tctattat	acgttgctct	ttgtcgtttc	ggttggtgca	60
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ccgttgcccg	gtgtgtcggt	attagtgaaa	ggaaccggcg	tcggtactat	taccggtatt	180
gacggcaagt	attccatcaa	tggtccgtcc	gatggtacgc	tggtattcag	ttttatcgga	240
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gtttcgttct	aa					3132

&lt;210&gt; 4385

&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4385

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gacaaactca	acacattgct	tataaacgct	ttggtttcta	caggcgagtt	gaaggaaatt	420
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tag						603

&lt;210&gt; 4386

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4386

agaatccatt	ttagtaatat	gaagaaattg	ctttgtcccc	agtgtaaaat	agccggtatg	60
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gtacccaaat	atccggaaat	cccaatcgaa	ggattcgatt	ttacggaagt	atattgtctg	180
ggctgttctt	ggcatggatc	gccc aaacaa	ctgacaagat	tctaa		225

&lt;210&gt; 4387

&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4387

aaaagggaatt	tgaagtttga	tccggtcata	ccgcagagta	gcacaggact	gactgttatg	60
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gatagccgga	atatcatcga	tatagaatcc	gctcataaat	aa		222

&lt;210&gt; 4388

&lt;211&gt; 1569

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4388

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aaactctga						1569

&lt;210&gt; 4389

&lt;211&gt; 1380

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4389

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&lt;210&gt; 4390

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4390

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------------	------------	------------	------------	------------	------------	----

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ggcctgaacc	gaaaactttt	tccatag				207

&lt;210&gt; 4391

&lt;211&gt; 870

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4391

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&lt;210&gt; 4392

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4392

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tcagcgagat	ag					252

&lt;210&gt; 4393

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4393

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&lt;210&gt; 4394

&lt;211&gt; 1692

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4394

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&lt;210&gt; 4395

&lt;211&gt; 1668

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4395

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&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4396

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&lt;210&gt; 4397

&lt;211&gt; 1326

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4397

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 <213> B.fragilis

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<210> 4400  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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525

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<212> DNA

<213> B.fragilis

<400> 4410

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<211> 1542

<212> DNA

<213> B.fragilis

<400> 4411

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&lt;211&gt; 435

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4412

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&lt;210&gt; 4413

&lt;211&gt; 1302

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4413

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&lt;210&gt; 4414

&lt;211&gt; 1509

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4414

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&lt;211&gt; 1131

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4415

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&lt;210&gt; 4416

&lt;211&gt; 1209

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4416

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acagaataa						1209

&lt;210&gt; 4417

&lt;211&gt; 2088

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4417

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ggtgaggact	atctttttcc	ttattaccgg	gatatgctca	ctgtgctttc	tgccggaatg	300
actccggagg	aactgattct	gaacgggtatc	tcaaaagcta	cggaccgggg	tagtgccgga	360
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&lt;210&gt; 4418

&lt;211&gt; 1317

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4418

tacttgtaca	tgtcgttcac	tcatccacat	aatcaaagca	attcagtttc	ctcttccgga	60
gcgaagggga	aattgaggct	ttcttatttt	cttgcccgtc	ggatttatcg	tgatacggat	120
ggtggaaaac	aagtttcccg	tcctgccgtt	gtgattgcca	tgattggtat	tgccatcggt	180
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attcagaaag	acgtgcgtgc	ccgccggctg	acggtgaaag	gcatctatca	gacaaacttt	660
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&lt;210&gt; 4419

&lt;211&gt; 1248

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4419

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gaaacagaaa	gcggcatcgg	tattcaagga	ctgctaccgg	aaggagatgt	caccattgtg	1020
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tatttctctga	aaaacccact	gggtaatcac	catatcctgt	tacaaggcaa	ttatgaaaac	1200
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&lt;210&gt; 4420

&lt;211&gt; 1512

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4420

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atggcatttt	ttaaaatgcc	gggtgacaaa	agtagcgta	tctccctgat	agtaactata	120
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aatgtattgc	tgaaaacaga	gaagatggag	attatcaaac	aacaattctc	ttccatctct	300
accgataaaa	gtatccaggt	actgctcctt	acctgggggt	tccgaggggt	actgaagcc	360
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&lt;210&gt; 4421

&lt;211&gt; 1443

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4421

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aaaagacaga	gtactcaact	gggtattgac	agagaaaaaa	tcaatattaa	tacagaagat	180
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aatgaaccta	ccaaacggat	aaaagaaatc	tttactttat	ataataatgg	aaaaccgatg	300
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gatggttcct	ccattctatt	agatgagtat	aagaaaatta	tgcaatataa	cgaaatacag	480
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tatatTTTTg	acaacatata	taatagaact	catgatgtca	gctatcattt	aaatagacct	1440
taa						1443

&lt;210&gt; 4422

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4422

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cattag						846

&lt;210&gt; 4423

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4423

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agtctcgatc	tgccttag					1278

&lt;210&gt; 4424

&lt;211&gt; 1305

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4424

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cttcagggtt	tccacccgct	cgcgtaccag	ggcggaggctg	cgcttcatgt	tacggatatt	660
ctcgctcagg	ctgctgatct	ggctttccct	gaaaaaattg	tcttgccgga	tgcgttcgct	720
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ttgcgctatc	agctgctctt	tgataaggcg	gctgtattgc	tcgtaacgcc	gttgtttcac	840
tgccagttcc	ttattcaggc	cgatgcgttc	ctgtttcagc	cgcagatggt	cctgtcccat	900
gctgatgcgg	gtattgcgca	actcgttctc	ctgataggcc	agatcggcct	cgctctgcat	960
gatgccgatg	ttcaggagcg	gattgctgag	acgaagaatc	acatcgccctg	ccttgacgat	1020
ggctccttcc	tctttcaggc	gctcttccac	acggcctcct	tctatcgcat	ccatataaat	1080
gatgcgggtg	ggcatcactt	gtccgataac	ccggatgtaa	tactgaact	ctccccgggt	1140
aactgtagca	atggtcagcc	ggcttttttc	cacattcata	gaagaggaag	tgtctctgaa	1200
aataaagtaa	aaaacaagtc	ccaccaatac	cacggctccg	gcgacggcat	aataatgctt	1260
ccgcttcatt	ccgggtttgc	gttcgatcat	tgtatccata	gataa		1305

&lt;210&gt; 4425

&lt;211&gt; 1371

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4425

atagaagttt	tcagtatgag	tttcaacatt	gtaaaaaacg	acaagaagcg	tgtcatcatc	60
gtaggtggtg	gcttcggcgg	tcttaaatgt	gccaacaagc	taaaaaagtc	tggtttccag	120
gttgttttag	tcgataagaa	caattatcac	cagttttcctc	cccttattta	tcaagtcgct	180
tcagccggac	ttgaaccag	ttccatctct	ttcccgttcc	ggaagatttt	tcagaaacga	240
aaggactttt	acttcggtat	ggcagaagta	cgggccatct	tccccgagaa	aaagatgatt	300
cagacttcca	tcggtaaagc	agaatacgac	tacctgggtac	tggcagccgg	caccacctcc	360
aacttcttcg	gcaacgagca	cattgaagaa	gaggccatgc	ctatgaaaac	cgtttcggaa	420
gccatgggac	tgagaaatgc	cctactggca	aactttgaac	ggctcgatcac	ttgcagtagc	480

gaacgtgaac	ggcaggagtt	gctcaatgtc	gttgtttag	gcggaggggc	caccggagtg	540
gaaatagccg	gagtgccttc	ggaaatgaag	aagtccgtac	tgcccaacga	ttatccggat	600
atgcccagca	gcctgatgca	catctacctg	attgaagcgg	gcgatcgtct	cctggcggga	660
atgtccgaag	attcatcccc	ccatgccgaa	cagtttctgc	gtgaaatggg	agtcaacatc	720
ctgctgaaca	agcgggtgac	ggattacaaa	gacataaaag	tgatgttggg	agacgggtaca	780
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caggggaacag	acactatttt	tgccatcggg	gaccaatgta	ttcagactac	ggacaagaac	960
tatcctaacg	gacaccgcga	actggcacia	gtggccattc	aacaaggcga	actgcttgcc	1020
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ggatcgatgg	caaccgtagg	gcgcaatcgt	gccgtggcag	agttcagtag	tttcaaaacc	1140
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cgcaacaaag	caaacgtcct	actgaactgg	gtatggaatt	actttactta	cgaccagtcc	1260
ctgcgcgatga	ttgtctatgc	aaagaaggcg	aaagagggtg	gtgaccggga	agaactggaa	1320
gcgaaaacgc	attggggaga	agaaaccag	acgcaacaac	ccaaaggcta	a	1371

&lt;210&gt; 4426

&lt;211&gt; 1035

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4426

tggatctgct	tactgcagac	accgcttata	cgcagttcaa	agccggacaa	gaagctcgag	60
ctaccctact	acgcggcttc	acaaccatcc	gggatgcagg	tggtccggtc	ttcgggctta	120
aacgggccat	cgacgaagga	atcctttccg	gaccacgcac	ttatcccagt	ggctctctta	180
tctcccagac	aggaggggca	tggagatttc	cgggcgggat	atgacgaacc	ccgtcccttt	240
gactgttgcg	gactgacgca	taccgaaaag	atgggagctg	ccattatcgc	cgacggaata	300
gacgccgtga	ccgtgcgcgc	acgcaataat	ctcggcctgg	gagccagcca	gattaaattg	360
atgacaggcg	gcggggtagc	ttcctgggtat	gatcggttgg	aagattccca	gttcttcgag	420
aaagagattc	atgctgccgt	taaagcgggg	aaagatgcag	gaacatacgt	aatggtgcat	480
gtctatgtgc	ccagagctat	tcaacgagct	atccatgcag	gtgtaaaaag	catcgagcac	540
ggccatctga	ttgacgaacc	caccatgcag	ctgatcgcag	aaaaagagat	atggctcagt	600
atgcaaccct	tacttttagg	agataatcaa	ttcccgacaa	agaacaaca	ggagaagcat	660
gccttggttag	ttcaagggtac	ggaccaaaacc	tatcaactgg	caaagaaata	caacgtcaag	720
ctggcatggg	gaacagattt	actgtttcaat	cctgccaca	cgaagaatca	gaatcaggga	780
atccttaaatt	taagacaatg	gttcagtaac	tttgaaattc	tcaagatggg	aacacatgat	840
aatgcggaat	tgctggctct	gtccgggtgca	cgaaatccct	atcccgggaa	attgggtggt	900
atagaagaag	atgcctgggc	agacttaatt	ctggtagatg	gagacgtact	gaaagacatt	960
accctattgg	gagatccgga	aaagaatttc	ataataatca	tgaaaggagg	agaaatatac	1020
aaaaatagag	tctga					1035

&lt;210&gt; 4427

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4427

aacgaaccat	taaaaaagat	tatgatgaaa	acaaaaatga	tatatatgat	acttctgttc	60
tcaagtattc	ttttcggggg	atgcgttagg	gatgtcattg	atgatgttcc	ggggacggat	120
gaggactatg	cggcagataa	gaaggacgtg	gtcctgatac	gtatgggaac	taacgatgcg	180
gaagtgaag	atattacatc	ccgtctgttc	aacaacattc	cttcttctctg	ggaaataggg	240
aaaaagacca	ttgtggacta	tgacaagatg	aaagatcctg	agacggaact	taatgccgac	300
atcaagaatc	cgaagattta	tatgacggtc	attttgaata	tcgatgatgt	tatctccggg	360
aaatatccga	tatctctggt	ccgtatgttg	aagttctata	aaagggattt	ttatgtgatt	420
gccactcagt	ccactccgga	acagaaggag	gagatgcttt	cactgatagg	agtctatatg	480
gaagcagggt	attatgcgat	caactatgat	aacgtacagc	attaccgtat	ttttccttct	540
gccgatccgt	atgccaaaga	taatatgatt	ggtaagggag	tggcttcctt	caatcaaaaa	600
ctgttgaccc	gctctgccga	taccttacct	gaaggtaacg	atccggatcc	cggatataat	660
gcacaaatgg	cggataagga	ggctttgaag	aggattgaga	tttacaaccg	tatctatggc	720

tatgctcagg	gagacatgaa	ctactccatg	caggcggtcc	cttataagat	gaaacaggg	780
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gccaatatca	aagactatac	cactcccaaa	ggtgccaatg	tctatgctta	catctggaat	960
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aaagtgtctg	tttccgtatc	gccacccaaa	ctggaagaca	aaccttgggg	ggcggttcaaa	1140
gtgtcggttg	gtaaagaatc	gtctaccgaa	gtgtcttaca	aggactaa		1188

&lt;210&gt; 4428

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4428

atggaagcat	tcacattcaa	tacaactgaa	ctgatactac	tgctcggtac	aggtgttctt	60
ttaatcattc	aacttatcta	ctatctcgga	ctgtacaacc	gtatacacac	ccacaacctc	120
gctgtcggaa	aagacgaagt	acacttcgga	cggaactgc	ctccctatc	tgtggtgatc	180
tgtgcacgaa	acgaatcgga	aaacctacgc	cgcaacctgc	ccacgatctt	gaaacaggat	240
tatccggact	ttgaagtaat	cgtcattaat	gatggctcca	cagacgaaag	cgaagacttg	300
ctatccggcat	tggaggaaga	atatcccaac	ctgtatcaca	gttttactcc	ggacagtgc	360
cgggtacatca	gccggaaaaa	actggcattg	acactgggaa	tcaaagccag	caaacacgac	420
tggctggtat	tcacagaagc	cgattgtgct	ccggtcagca	accaatggct	ccggcgaatg	480
gcgcgtaatt	tcacatcgag	tacagacatc	gtactgggat	atagcggcta	cgaacgagga	540
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ggattttgcc	tggcaggtaa	accgtatatg	ggatcggac	gcaatctggc	ctaccggaag	660
gagttgttct	tcaaagtcaa	gggattctct	acctatctga	atatgcagcg	cggagaagac	720
gatctgttca	tcaaccaggt	tgccaatgaa	aacaacaccc	gggtagagac	ctcaccggat	780
gccgtgatac	ggatgcaacc	cgtggaacgc	tataaggact	ggaaagaaga	aaaggtgagc	840
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ctgccgggtt	ttgacataat	ccgtccgtta	cagaccttga	agttgaagct	ttaccgcctc	1140
tatcgcgga	agggtgattt	catgcgcaga	taa			1173

&lt;210&gt; 4429

&lt;211&gt; 1038

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4429

tcggttttgt	tttcgtccga	acggaacaag	acttttataa	caaaaagaaa	aatggcacaa	60
ttgaattttg	gcggtgttac	ggaaaatgta	gtaaccctg	agaattttcc	tttgaaaaa	120
gctcgtgagg	tattgaagaa	tgaacaatc	gctgttatcg	gttacgggtg	gcagggaccg	180
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gaagaggcat	gcgagaaagg	tactattatt	atgtgtctgt	tgtcagatgc	agccgtaatg	360
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acgggtgagg	agttaaactca	gtcattgtatg	ccgctgtttg	ctaagaatgg	tatggactgg	840
atgtatgccca	actgctcgac	tacggctcag	cgtgggtgctc	ttgactggat	gggcccgttc	900
cacgatgcta	ttaaacctcg	tgttcagaaa	ttatataata	gtgtaaagac	cggtaacgag	960
gcacagatct	ctatcgactc	taattcaaaa	ccggattatc	gcgagaaact	ggaggccgaa	1020

ctgaagggca ttgcgtga

1038

&lt;210&gt; 4430

&lt;211&gt; 1935

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4430

ttcttagcat	ataacttaca	gccaatcaag	atgaatgata	ataaaataaa	gtcttcttct	60
ccactcagtg	atcttcagca	tcagcaactt	ttgctacgca	tggaaatatga	atacgagaaa	120
gaagaattcc	gccggcagac	agagacgatg	ggcattgcac	ggaaagtaaa	acgagggctc	180
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gaaatagaaa	ggaaagaaga	taaagacatc	gaacatgtat	tcgaattcgg	acgtccggtt	300
tgctttttcg	aacagggata	tgacggaaaa	atacattatt	tcaattccat	ctgtacagtc	360
agttatgccg	acgaggaacg	tatggtagta	gctgtaccgg	gtgccggatc	tctacttgaa	420
atacaaggag	cagaacgtct	gggagtacaa	ctctattttg	atgaaacctc	ctatcgtacc	480
atgttcgaag	cgctggaaga	tgtgattcgc	gccaaaggca	accgccttgc	cgaactacgt	540
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atcggttcacg	gtcctccggg	gaccggaaag	accaccactc	ttgtagaagc	catctacgag	720
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attgccgaga	agctggtgga	cgcgggagtg	cctgtattgc	gtatcggcaa	tccgagccgg	840
gtaaatgaca	agatgctttc	atttacttac	gaacgcctgt	tcgaggggca	tccggcctat	900
accgaactct	ggggaatacg	taaatcgatc	cgggaaatgg	gaaaccggat	gcgcaaaaagc	960
agttactcgg	aacgggaagc	tgacgcagc	cgcatcaatc	atctgaggga	gcgtgccacg	1020
gaactggaaa	tacaaatcaa	tgaagatctg	ttttcggggg	cacgggtcat	tgcttccaca	1080
ttggtcagca	gtaaccacgg	tatcctgacc	ggccggcgat	ttaccacact	ctttatcgac	1140
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aacgggttgg	aacaaacatt	aatggaaaaa	gtagcagcca	acaagcagga	aacggtctca	1320
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ttgcgccgaa	tgaacgtagc	catcaccocg	gcccgaatga	aactgggttat	attaggagat	1860
gcggtcacaa	tgagcaagca	tgctttctat	aagaaattga	tcggatatat	cgggcacatc	1920
agccaaggac	tctga					1935

&lt;210&gt; 4431

&lt;211&gt; 1977

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4431

atcaagttta	atatatatct	ttgtgccctg	atcaacaac	aaacaatatt	atatcatatg	60
aaaaatcgta	tttatacaat	gaaaggggatg	ctggctacat	tactgggtgc	ttttttacta	120
gggtatgcag	taacaggttg	tattgatgaa	aaagatcatt	ataaacggga	cgataaaaca	180
tcaggagtg	ctaactcttt	tgattttgcg	actactcagg	atgtccaatt	ggatctaaag	240
tatgatgttc	ctgtgaaaga	ttatcagggtt	ttgtttgaac	tctattttga	aaatccgttg	300
acgacagatg	ccgaagggca	ggtggtgaaa	cgtactgata	tcactcccaa	ggttacgaga	360
atgactgatg	gaaccggaaa	atatcgtgcc	aaggagacgg	taccggccta	tgaggaggag	420
gtttatatct	atacttctta	tatcggagtg	cogatgttgt	ataagactaa	aatagtaggg	480
aatacgatta	cagccgatat	aaattgggat	acggcggcag	aggagtctgt	tcagacacgt	540
gccgaaggcg	agtatcagac	agtgccctcag	ggattttata	cttttaggaag	ttggaacgtg	600
aagggacgcc	ctaattatct	ggatagtgaa	ggggtaatag	aattgacttc	ttcattttat	660

cagacgatta	atcaacaat	tccggaaggt	ggaaattgtc	ctcggaata	tccgcaatcg	720
gctgacattg	ttatcaacga	tgaattggga	gctgaagtga	aggtgcgttt	tgttggaggt	780
acaagtgtcg	cgtacagtgc	tttcggatat	tattgttata	cgaaggagc	ggctaaaaaa	840
cagatagaga	atgctaggaa	atatgtggtc	tttcccaata	cgaaaaccgg	agtcggcata	900
aaaggcggag	agtgtgtgaa	gctgcattat	atcgatgaaa	atggtgaaga	ccaagggact	960
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attgaagcta	ttgctccgga	tgtaccttcg	gtagatccga	tagatccgga	tgatgcgtcg	1260
gttgcttata	gcatgactta	taaagggtatt	ttggcttttg	aagacaattg	gcctttctaag	1320
ggtgattacg	atltgaacga	tgtaatgtgt	aaatatagct	ctatattaga	gttcaataacc	1380
aagaatcagg	tgttttccgc	tgaagatacg	tttacggcaa	tgtggtccgg	agctctcttt	1440
aagaatggct	ttgcctatca	gttgaatacc	gatagaagca	atgtggaatg	cagcatattg	1500
gaaggaaagt	cgggatggga	caaacaagga	ttagacaaag	acttgagca	ggccaccatt	1560
tcggtgtttg	ccaatgcgat	tgaagagacg	ggagagaaca	ctaagacttc	tacttttaag	1620
attcagaaca	aattttaaca	gccagtcgat	catgaaactt	tccgagtggt	accctacaat	1680
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cacggacca	cctctaaaga	aaatatgaat	ctgttcaata	cccagcagga	tttgtcagat	1800
aaagataaag	gcatttatta	tgtgtccgat	cagaattatc	cgtttgccat	tcatctgtcg	1860
gatgtcagat	cattcagtac	aacggagaag	gaagctattg	ataagtcgta	tcttcgtttt	1920
gcttcattgg	cacaatccgg	cggaacgaca	gataaggatt	ggtatttgaa	gaaataa	1977

&lt;210&gt; 4432

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4432

aatgtgatta	aaatgaagaa	gattgttttt	cttttgctgc	tctgtgttgc	ttgctgcatg	60
aatgcacagg	agtttcatct	gattccgaag	gtcggtttga	atctggcaaa	tactaccgga	120
gaggtggatt	ctaaagtgcg	tcccggactc	aatatcggtc	tgggaggtga	tgtcatgctg	180
accgaacggt	ttggaataga	aacaggagtg	tattactcca	tgcagggaag	caaataataa	240
ggggggcggag	tctcttatac	ggataaactg	gattatatca	atgttccggt	atatgcgaaa	300
gagtttatat	ataaggggct	gtatgtgttt	ggagggccgc	agttcagttt	caatgtgaac	360
tcagagaaca	aatcactctc	cgactatggt	accacagtca	taggcataaa	tgtgattcgc	420
aagtttgatt	gtggagtggt	gcttgagacc	ggttatcagt	ttgaacgtgg	tctgtgatc	480
tctctaaact	ataacatcgg	actgattaac	gtaaacaaat	cttgggcaag	cgactctaata	540
cctaaagcaa	acaatagtgt	ggtccagcta	aatgtcgggt	ggcgttttgc	actgtaa	597

&lt;210&gt; 4433

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4433

atgagtaaca	ataagaagat	agggagttat	aagtttattg	cggagccttt	tcatgtagac	60
ttcaacggac	gtttgacaat	gggggtgctt	ggcaaccatc	tgttgaactg	tgccggcttt	120
catgccagtg	aacgcggctt	tggaaatcgt	acattgaatg	aggacaatta	tacatgggta	180
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<210> 4434  
 <211> 2373  
 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 cttcaggcac attattttcac tgaagatgaa atctattttc atgaaatagc tctttataag 180  
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&lt;210&gt; 4436

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4436

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tggtgctat 909

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&lt;210&gt; 4437

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4437

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&lt;210&gt; 4438

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4438

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tcttcggtct ga 372

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&lt;210&gt; 4439

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 <213> B.fragilis

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 aaggatgcta ttattcccga ttcttatacg atcgatctga ccggcttcca tatgcctact 300  
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 <212> DNA  
 <213> B.fragilis

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 <211> 501  
 <212> DNA  
 <213> B.fragilis

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<210> 4442  
 <211> 933  
 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 4443

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4443

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&lt;210&gt; 4444

&lt;211&gt; 1335

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4444

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&lt;210&gt; 4445

&lt;211&gt; 255

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4445

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&lt;210&gt; 4446

&lt;211&gt; 672

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4446

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&lt;210&gt; 4447

&lt;211&gt; 804

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4447

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804

<210> 4448

<211> 2124

<212> DNA

<213> B.fragilis

<400> 4448

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cccgatatag	atagtcccg	cgatctgaaa	ttgtcgtcaa	tggggcttca	gccctattat	480
aatacgacgg	agaagatgaa	gcgcagcttt	cttaactccc	atgcgattga	aaaaatgatg	540
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<210> 4449

<211> 267

<212> DNA

<213> B.fragilis

<400> 4449

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tgggttcaga	acgtcgtgag	acagttcgg	ctctatctat	cgtgggcgta	tgaatttgc	180
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<210> 4450

<211> 882

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4450

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gaatatatag	gggcgttggg	tgcattgttg	gtgcatgtgg	ctattattgc	tcttttgatt	120
ctcgtaagtt	ttgctatccc	gcatccggac	gaagaagccg	ggggagtacc	tgttatgatg	180
ggagatgtgg	atgctgctta	tggaaactat	gatccttcta	ccatggtgga	cgtggagggt	240
ttaccggaag	aagtgcgggc	tccgcagccc	gaaccggaag	tggagactga	acaggaaatg	300
attactcaga	ccgaagaaga	aacggttgtg	gtaaagccta	aggccgaacc	taagaaggaa	360
aaaccgaaag	tggcaaagaa	acctgagaaa	actcccgaag	aaaaagctgc	cgaagctaaa	420
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cgtccggtat	acaatgttca	ggaagaggga	cgtgtcgttg	tttctatcac	ggtaaacctt	720
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cgtaaggcag	ctgaagatgc	ggctaagaag	gctcgtttta	atgctgtgga	cggagtaaac	840
aaccagacgg	gaacaattac	ttattatttt	aatttgaaat	aa		882

&lt;210&gt; 4451

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4451

aagctccgta	ttatattaag	acatagaact	atgactaaat	taagtgtgaa	cataaacaaa	60
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&lt;210&gt; 4452

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4452

cagattggca	tcttgaagaa	ttattttatg	gcattaaagc	gtcgagcaaa	aatatcaccc	60
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acctcaactg	ttgtgtcgcc	caatgcgatt	aaagtgttgt	tgccacaggg	gaaacagcaa	180
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tgtgcggata	aagaacctga	gatgtatgtt	gctctctatg	cagatgaaac	tgtgccttat	360
cgcgaaatcg	ttaaagtgtc	gaacatcgct	aatgagaatc	atttttaaata	ggtgttggct	420
acacgccccg	cggaaacaaa	gaagaaatga				450

&lt;210&gt; 4453

&lt;211&gt; 270

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4453

aacgtgttga	tgggaataga	ccagtacgat	catgcgtcat	ggggaatcac	gcgccccgct	60
ttttttgaag	ccgccttaga	ttatcgacgg	ggacgcccc	ggagatgcat	catgatgggg	120
cgcacgatga	agaacccgca	tggagaaggg	aacgggatgc	accaatgcag	aaggacatat	180
gaaggatggt	caatacttaa	cggaccatca	cggagcgtcg	tgcacatga	tcgatcgatg	240
cgaagacgga	ggcgggacgt	cgcagctga				270

&lt;210&gt; 4454

&lt;211&gt; 738

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4454

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ccgatgttta	tggagaagat	taaagattat	atccatagtg	gggagataaa	atcggccatt	300
aattactgtc	gtacgataaa	tactccttca	gcccgcatga	ttgagaaagg	tatcagccgt	360
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gtgggtgggt	tgattgtggg	tattattgct	atgtttgctt	acaactacct	ggtgatgttg	660
gtagaccgag	tagtcaataa	gatggaatcc	agaactatgg	agtttatgga	tttgcttaat	720
gaacctgcac	aaaaataa					738

&lt;210&gt; 4455

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4455

aatccgtttt	tgattatggt	agaagaaatt	cttgaattca	acaaaaagtt	cgttgagaac	60
aggggatacg	aaaagtatat	cactaacaag	tatcctgata	agaaaatcgc	catcctttcc	120
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ccgcttattc	cgaagatgt	ccgggtgcat	ggttttatca	tcgattcact	gaccggcgag	540
ttgacgagag	tggataaa					558

&lt;210&gt; 4456

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4456

ggtaaatacat	cggattgttt	tccgttttct	ttcttactgt	gtgccatcta	tttatgcaaa	60
cgtttttcatt	ggaaaattct	ccgggatgga	getcaaccga	taaggagcac	ttttcgatgc	120
aatcaggtga	acgtgacgtc	cggaaaagga	gatgccgtca	tagcttcggc	tacgcagcac	180
cgttaacttcg	gctacgcagc	accgtaa				207

&lt;210&gt; 4457

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



<220>  
 <221> unsure  
 <222> (91)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 aataaatcaa taaaattcat acgcgcgctg cctgttatgc tcgctattat caaatccggt 180  
 tcggtctatg gaggagattc cacaccagac aggtcgctcc ggtag 225

<210> 4458  
 <211> 1095  
 <212> DNA  
 <213> B.fragilis

<400> 4458  
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 caggagaaag aagaggctgc tacactgaat aaagtgggtc acacactgaa agagcgaatc 180  
 actctggccg gatacgcgca gttgggatat acctatgacg atgcagcaaa aaaaatgaat 240  
 acgttcgaca tcaaacgaat cattttcatg gctcacggaa agatcacgga ccgctggacc 300  
 tgtgatttta tgtacgactt ttacaacggc ggcacgtctg tcgaagttaa caccgattac 360  
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 aatttcgacc ttgtggcttc gtatgactat ttcaatgcaa acaaagccgt cagtaggaaa 960  
 cagaccaatt atatagccgg actgcaatat tggttctatc ccaagtgcag gctgcaagca 1020  
 caatacactt tctgcgaccg gaataaaggc aaagacagca atctgtttca ggccgaggta 1080  
 caggttaagat tctga 1095

<210> 4459  
 <211> 1425  
 <212> DNA  
 <213> B.fragilis

<400> 4459  
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 agtatctccg ttagcgcggt ctttcaagcg gaaagccacc agattaccaa catctaccgg 180  
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 actgacagct cctacaatat caaacttaat gctctcttct tccccgggga tcccggcaag 660  
 gaacgctccc ttatgattat cattaaaagg accacgcaac gcatcacgca tttcatcgga 720  
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&lt;210&gt; 4460

&lt;211&gt; 1386

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4460

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tatgcagtca	aaggccgtgc	ccgcaacctc	atactactgg	taaccagttg	tattttcatc	120
ggatggtact	atctgccttt	cctgttgacg	gcagtagtgg	tagcactgtt	caccttcttt	180
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ttttaa						1386

&lt;210&gt; 4461

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4461

ctgaccacta	ctacaaaaaa	taaagaaagg	aataataatg	gagtatcaac	ggatatggct	60
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gaaaaccaat	ggatatgttc	ccgacggctc	tattctctac	ctcggacgct	ggaacggaat	180
gggagcaatg	atttatttca	catctga				207

&lt;210&gt; 4462

&lt;211&gt; 1149

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4462

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&lt;211&gt; 1368

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4463

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&lt;211&gt; 1623

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4464

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&lt;211&gt; 402

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4465

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&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4466

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&lt;210&gt; 4467

&lt;211&gt; 1080

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4467

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4468

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&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4469

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4473

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tcaaagtaa						1209

&lt;210&gt; 4474

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4474

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&lt;210&gt; 4475

&lt;211&gt; 1194

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 4475						
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ctcttttttg	tcttcagcaa	caaagcatac	gccatatattg	ccctactgtt	cggctttagt	240
ttctatatac	aagacaacaa	tcagcaacgc	cgcggaacaa	actttcgtct	ccggttcatc	300
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&lt;210&gt; 4476

&lt;211&gt; 1266

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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ggatcaaaag	tatcttctaa	gatcgaaatc	atcgaaaacc	tgctgaacaa	ggtagacaac	720
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gaataa						1266

&lt;210&gt; 4477

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4477

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tcagcgagat	ag					252

&lt;210&gt; 4478

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4478

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tgtgaaacct	gtgggtttaca	attgatgtgt	aaatattact	gtgagaagta	taaagttagc	660
aaagacacac	cgaagaggaa	gaataaataa				690

&lt;210&gt; 4479

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4479

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&lt;210&gt; 4480

&lt;211&gt; 2169

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4480

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&lt;210&gt; 4481

&lt;211&gt; 1032

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4481

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&lt;210&gt; 4482

&lt;211&gt; 2034

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4482

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&lt;210&gt; 4483

&lt;211&gt; 1359

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4483

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&lt;210&gt; 4484

&lt;211&gt; 396

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4484

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&lt;210&gt; 4485

&lt;211&gt; 504

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4485

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&lt;210&gt; 4486

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4486

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&lt;210&gt; 4487

&lt;211&gt; 1332

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4487

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&lt;210&gt; 4488

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4488

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&lt;210&gt; 4489

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4489

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&lt;210&gt; 4490

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4490

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ttaa						183

&lt;210&gt; 4491

&lt;211&gt; 2202

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4491

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&lt;210&gt; 4492

&lt;211&gt; 1527

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4492

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&lt;211&gt; 522

<212> DNA  
<213> B.fragilis

<400> 4493

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<210> 4494

<211> 219

<212> DNA

<213> B.fragilis

<400> 4494

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<210> 4495

<211> 183

<212> DNA

<213> B.fragilis

<400> 4495

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<211> 858

<212> DNA

<213> B.fragilis

<400> 4496

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gacgccggac	tcccatttaa	gaagcacggc	tatcgggact	tcgtgctccg	cttcgggtgc	780
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atcaaaatat	acgtctga					858

<210> 4497



<211> 741  
 <212> DNA  
 <213> B.fragilis

<400> 4497  
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 ggtacaggat acaatgccct gatccatcgg gtaggtgagg cgttcaattc cttctatgtg 180  
 ttcgagcaga tttatgggtc tgacggtaaa cctatcgaag gtgcttatgt agatcagaat 240  
 ggagataacc agattaacga cgcgcacttg atctgcttca aaaaagctgc tcccgatgtg 300  
 ttcattgggac tgacctcaca actttcttat aagaactggg atttttcatt tgccttgogc 360  
 ggcagcttcg gtaactatgt ttacaataat gtgcagtcca accgtgaggc atacgaaggc 420  
 gccaatatgt atgaccagac cggattcctg aaaaatcgtc tgacctctgc ccgcagcact 480  
 gatttcaaga acgctcaata ccgttccagc tattacgttc agaatgcttc gttcgtgogc 540  
 atggacaaca tctctttggg atatacgttc aataaactct tcaatgataa gcagagtga 600  
 cgcgatatatg ctacggtaca gaatccgttt gtcattacta agtacaaggg actggatccg 660  
 gaaatcagtg gtgaagggaat cgataacaac atctatcctc gtccccgtgt attcatgatc 720  
 ggccttaatc tcaactttta a 741

<210> 4498  
 <211> 294  
 <212> DNA  
 <213> B.fragilis

<400> 4498  
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 gaagaagtat taaaacaact acaaaagcatt ttccgtaata tcttaaaaaa ggacaacgta 120  
 tgtatcgacg aatcatctac ctcaaaaagat gtagatggct gggactcgct aaccacatg 180  
 caaattatag ctcaaatcga gaaacatttc ggagtacgtt tcaatttcag ggaggtcatt 240  
 aagttcaaga atgtcggcga tttgtgcagt gccttattaa ccaaatgga ataa 294

<210> 4499  
 <211> 1623  
 <212> DNA  
 <213> B.fragilis

<400> 4499  
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 aacggtgcct acacaggaag tatggtcgaa gtatcgaaca cgctgggagt attgagcgaa 180  
 gatattacca tggcttacta ttcagcttcg gtagggatgg ctgttgcccta tcccatcgta 240  
 ccgaaaatac gcaccatagc cactccgaaa accttactgc ttaccgacct gctgctacaa 300  
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 ctcttcagtc cgaaaaacgt acgaagtga tttctatgct acttctaccc catcgttttc 480  
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taa						1623

&lt;210&gt; 4500

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4500

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gttgcttggt	tcgatgtccg	gttatctgct	gcctttgggt	ttattgataa	tcggagggtat	120
attgtatttg	atctcaacac	gatgaaaaga	agtatagaag	atacgccgat	cgtattttatc	180
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gtacagggtg	atagccgtac	ggaagagtcg	gcccgcgagc	tggcacagaa	agtggaagcc	300
gaatatacga	cagacctcgc	agagggtgaac	ccgtatgcga	agctgtatat	tgtttctactg	360
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&lt;210&gt; 4501

&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4501

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gtaaatgtaa	aagacggtta	tgccatccaa	ttggccgtaa	aaaaagggct	tcgtatcgct	180
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cgtgagtgcg	gattgccttg	ttgtcccaa	gatgcggttc	ccgaggtgaa	agcgattgcc	420
cgttacattt	cgtatgccga	tggaggatac	ggctgtggac	gcgatgtggt	ggagcagggtg	480
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&lt;210&gt; 4502

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4502

caggaaagcg	gtggcgatga	tgaacatgct	tcttccgtcc	atctctttga	acggaatgtg	60
catgggacgc	cttgcatagc	ggaagaaaca	gatgacgaac	agaatggcga	tcagcaagag	120
gatggtgaca	aaatagtaca	tgtgctgcc	ttggtagtga	taggccagtt	gagcgggtgat	180
agccatcgat	ag					192

&lt;210&gt; 4503

&lt;211&gt; 1875

<212> DNA  
<213> B.fragilis

<400> 4503

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gaaaggatat	gccatgcacc	actccggcat	ggagaaagag	atcatggaaa	ttattctccc	180
aaatccctca	cctacagaag	catcaaagta	aaaaacagct	ttccagaagc	aatatatact	240
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cgtatcttcg	taacatctaa	tcataaatcc	actaaaaaag	atacgactat	gaaacgactg	360
actatcctat	ttatgctctt	tctgaacctg	tgcctcctct	atgccaaaga	ccggaaagga	420
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gacgcctaca	ttcaagacta	tgtacaggcc	atTTTTgcca	aagtcaatcc	cggcgaaata	840
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aaacgctata	aaatggcgga	acaactggct	cagaagaaca	tagacaatcg	ggtggcctcc	1560
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accaggaat	ccgaatggat	cggagaagaa	ctggactggg	ctagcaaaat	gctttcaaaa	1860
atcagtctgc	tatag					1875

<210> 4504  
<211> 186  
<212> DNA  
<213> B.fragilis

<400> 4504

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ttgaacggag	gcggtgttct	gggctcgag	cattacgctg	aagccagat	agaggaggag	120
tatccaatgt	ttcatgaggg	gatagattct	attgtttctg	actttctaac	ggtattcctt	180
ctttga						186

<210> 4505  
<211> 1863  
<212> DNA  
<213> B.fragilis

<220>  
<221> unsure  
<222> (1100), (1146)  
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4505

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aatccggaac	tccagttaat	ggtatacggg	gaaggcatcg	gccaggcatc	cgtatcagta	180
aattatcccg	gtgtatcgct	cagcagcgct	gtgaaactgg	aaagcaacaa	ttacctgctt	240
gtctacctac	atctcgataa	agaagtaaag	ccgggcaaga	tgcccatcac	atttacggtc	300
ggaaaaga	aattggtgaa	agagtacgaa	ttgaaagcac	gcagcaaagc	cggagtcgat	360
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tcatatcacg	gatatgcaac	aaccgattat	tacaaggtag	accacggtt	cggcactaac	660
gaggaatatc	gctcactgat	agcgaagcc	cacaaccggg	gcattaaggt	cgtgatggac	720
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gaagccatgc	ctgacctcaa	ccaaaagaac	cctcacgtat	acaaatacct	cttgccagaac	960
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acacgggtggg	cgaacacctgn	gttaccgaaa	ccgcctatac	agcctggtgg	cagaaaagaa	1140
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gacaaagtca	acaccgccaa	gaatgaacaa	accgacacct	ggttcaaagg	atggaaccgt	1260
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aaatactatg	ccgaagtgc	gaaagacaag	actcaaggaa	aagacgtcat	tagcggaaaa	1800
gtaacggcac	tcaatgaaga	actgacaatg	gcaccccgcc	aatcgatgg	tatagagctt	1860
taa						1863

&lt;210&gt; 4506

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4506

aaaacgaata	ttaaaatgaa	aaaaggctct	catcctgaat	cataccgtcc	ggtagtattc	60
aaagatatgt	caaacgggtga	tatgtttttg	tctaaatcaa	ctgtagctac	aaaagagacc	120
atcgaattcg	aagggtgaaac	ttatccgtta	ctgaaaatcg	aaatctctaa	cacttctcac	180
ccgttctata	caggtaaatc	tacattggta	gatacagccg	gacgtgttga	caagttcatg	240
agccgctacg	gtaaccgtaa	gaaataa				267

&lt;210&gt; 4507

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4507

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agtcccaaaa	agtttgaggg	cttctttctt	gattattatc	cccgggtcaa	aggattcatt	120
aatggcttgt	tacaggatgc	tgaagaggcg	gaagatcttt	cgcaggatat	atttatgtca	180
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atttatcaga	tgagccgcga	acaggggctt	agtaatgaaa	atatagctcg	tgaactgaac	480

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<210> 4508

<211> 852

<212> DNA

<213> B.fragilis

<400> 4508

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gatgcagttt	cggagaagat	cgtttttcaa	gatgatttca	accaggcaga	tagtattcct	180
gatagaaata	aatggagttt	gtgtaagaag	ggaagcccgg	cctggagcaa	atatttatcc	240
gaaagctatg	atcaggctta	tgtacacgat	ggaaaattag	tgttggttgc	cgaaaaagtg	300
aacggagtat	ataagacagg	aggagtgcaa	tcattgggta	aagcgggaatt	tcaatatggt	360
aagatagaga	tatgcgcccg	tttcaccaag	acggcaaaag	gcggatggcc	tgccatctgg	420
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gaacagttga	atcatgatgg	cattgtatat	cagacaattc	acagtcatta	taaaaatgat	540
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<210> 4509

<211> 1563

<212> DNA

<213> B.fragilis

<400> 4509

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gcccgcgagc	gtattgcaca	gttgcttgac	gaaggtagtt	tccaagaact	ggatatgttt	180
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gaattccttg	aagtacagaa	agactatgcg	aaaaatctta	ttatcggttt	tgcccgtatg	960
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 <213> B.fragilis

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 aaatctccgc ttccggggcgt tatcctcgac ataaaagtga aagaagggga taccgtgaag 300  
 agaggccaga cgatcatcat ctttgaggct atgaagatgg aaaacaacat caatgccaat 360  
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 <212> DNA  
 <213> B.fragilis

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 tttgatcctt atagggtatt acacccctac aaacgattcg acgactctcc catgctactc 180  
 aacgaagccc atgtgggatg gcagaattat ctgcagaatc gcgattcgat agcctataac 240  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 4513

&lt;211&gt; 633

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4513

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&lt;210&gt; 4514

&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4514

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&lt;210&gt; 4515

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4515

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&lt;210&gt; 4516

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4516

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&lt;210&gt; 4517

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4517

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tatttcatag	attaa					315

&lt;210&gt; 4518

&lt;211&gt; 1092

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4518

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&lt;210&gt; 4519

&lt;211&gt; 1062

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4519

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&lt;210&gt; 4520

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4520

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&lt;210&gt; 4521

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4521

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<211> 753

<212> DNA

<213> B.fragilis

<400> 4522

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<210> 4523

<211> 246

<212> DNA

<213> B.fragilis

<400> 4523

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cttcgagatt	gctatgcac	gctcgacgaa	ctctgtgaag	atatgaatat	cagcaaggac	180
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tggttaa						246

<210> 4524

<211> 2352

<212> DNA

<213> B.fragilis

<400> 4524

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&lt;210&gt; 4525

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4525

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&lt;210&gt; 4526

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4526

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&lt;210&gt; 4527

&lt;211&gt; 2169

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4527

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&lt;210&gt; 4528

&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4528

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&lt;210&gt; 4529

&lt;211&gt; 864

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4529

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&lt;210&gt; 4530

&lt;211&gt; 660

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4530

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&lt;210&gt; 4531

&lt;211&gt; 2844

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4531

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&lt;211&gt; 1614

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4532

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1614

<210> 4533

<211> 720

<212> DNA

<213> B.fragilis

<400> 4533

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<210> 4534

<211> 1524

<212> DNA

<213> B.fragilis

<400> 4534

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<210> 4535

<211> 1257

<212> DNA

<213> B.fragilis

&lt;400&gt; 4535

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&lt;210&gt; 4536

&lt;211&gt; 1185

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4536

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&lt;210&gt; 4537

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4537

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&lt;210&gt; 4538

&lt;211&gt; 1632

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4538

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&lt;210&gt; 4539

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4539

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&lt;210&gt; 4540

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4540

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&lt;210&gt; 4541

&lt;211&gt; 729

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4541

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&lt;210&gt; 4542

&lt;211&gt; 570

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4542

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&lt;210&gt; 4543

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4543

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&lt;210&gt; 4544

&lt;211&gt; 4083

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4544

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&lt;210&gt; 4545

&lt;211&gt; 666

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4545

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tgttga						666

&lt;210&gt; 4546

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4546

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acacaggaaa	acatctccta	tacttccgac	caaggcaaga	cctatgattt	caatactgca	360
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&lt;210&gt; 4547

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4547

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&lt;210&gt; 4548

&lt;211&gt; 567

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4548

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&lt;210&gt; 4549

&lt;211&gt; 1503

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4549

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taa								1503

&lt;210&gt; 4550

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4550

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gtatag						906

&lt;210&gt; 4551

&lt;211&gt; 1398

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4551

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&lt;210&gt; 4552

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4552

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tcagcgagat	ag					252

&lt;210&gt; 4553

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4553

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tcagcgagat	ag					252

&lt;210&gt; 4554

&lt;211&gt; 678

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4554

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ctagttttcag	taagaaatca	aatatattct	tttatctttc	ctttgtcagc	agacattttg	600
ccagatgata	ttgacgctat	atttcattta	atacagactg	aaggacattt	tgttttctat	660
catcccgaatt	cattataa					678

&lt;210&gt; 4555

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4555

tatccataacc	tttgtttttc	cctgtctgta	gggaggggga	aaagcaaagg	taaaaaacag	60
aaaatgaata	tgaagaaaaa	tgtaatcag	acattgatta	gccttaccgt	catcatcgga	120
atttgtagtt	gcactacctc	cccaaagaaa	acaatacaaa	aagaggaggc	cacaggaaaa	180
tgggtaaaat	atgaaaataa	tcctgtcttg	ggtggtggcg	atttaggtac	ggtattcgat	240
atttgtgtac	tgaagatag	tgactcttat	aagatgtaca	gttcttggcg	ccccaaaaa	300
agtattgcat	tgtccacaag	taaagatgga	aaaaattgga	gtgcgcgcga	aatagttttg	360
ccacctgttg	aaggcagtag	ttgggaggct	gacatgaatc	gtccggttgt	tgtttacaaa	420
gacggactgt	atcacatgtg	gtatacggga	caaatgacg	gtaagtcattg	gattggatat	480
gctataagta	aagacggcta	taactttgaa	cggcaaagca	aagaaccggt	cttgtcagcg	540
gaacagcctt	gggagaaagt	tgcggtcatg	tgtcctcatg	taatttggga	taaacacgag	600
aatattttta	aaatgtggta	ttccggaggga	gaacaatatg	aaccgatgc	tatcggttat	660
gcaacgagta	aagacgggtt	acattggact	aaatgggaca	aaaatccgat	atttaaagcc	720
gatacctgcac	aaagtgtgga	acagcataag	gttaccgcat	gtcagggtgat	agaacgcgaa	780
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gcacgttcca	aagacggaat	caatgattgg	gaaagatact	ccgaaaaccc	gatcatttct	900
cctacggaag	gtgggtggga	tgccagtgcc	acttacaagc	catttgccat	tcaagagaaa	960
gactgctgga	tgctttggta	caatgggcgg	aatgaacatt	tggaaacagat	tgggtttggct	1020
atttatgaca	atcatgactt	aaatttctaa				1050

&lt;210&gt; 4556

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4556

tcctatctcg	atctttatcc	aatccggact	ggttgcattca	tttctctcct	tttatattgc	60
tttgcaggga	gaagttgtgg	agcaagtcgg	gattcggata	ctattttgat	agaaatggca	120
atctcttcgg	gagaaaacat	ttatcatgca	cttgagaatt	atttgtccgg	catgtattat	180
ctttgtgaac	ccactaatgc	attatatcta	acatga			216

&lt;210&gt; 4557

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4557

agaagtattt	ttctttatta	tcatactttt	gaatttaaaa	tgagcaagag	atattgtcaa	60
agttgcggtg	tgccacttcg	ttttgatatg	gaagaatggc	tggaactaa	tttggatggt	120
tctaaaagcg	atacattctg	ttactactgt	ctgaaagacg	ggaaatatac	agttgacgtg	180
tcgatgcacg	agatgattga	tatttggcct	aaatacgtaa	ataaatacaa	tatgtatgcc	240
catacagttt	attctcccga	agaattgaaa	atgatattgg	agaaaagact	gccgacactc	300
aatcggtgga	aacaaaaaca	agatacgaag	aatggtcata	accaagctat	tcaaagtata	360
gttaattata	ttagcaatca	tctgtttgaa	gattttgata	taattacatt	gtgccaaaag	420
tgcggaatgt	cagaatatca	ttttagaagg	gtattcaaat	ttattgtcgg	tgaaaaatata	480
ggaaattaca	tacaacgact	tagattggaa	tatgctgcac	acttattgac	ttcaaccgaa	540



tatacattat	cccggatagc	ggaactggca	ggttatcaaa	acaaatacag	tattgcaaaa	600
gcattcaaga	agcatttttg	agtttcaaca	tccttattta	aagaaaagatt	tacacctcga	660
aaacgaaatg	cacatacatc	gctaactccc	agaataataa	tgattaataa	aatgtttggt	720
tcttgtttgg	aagtggggaa	agcatacgaa	aataagtttc	aatataagat	ggtaggggat	780
aaactgttgt	attatgcaag	gttcaatagg	atagacaaaa	aacacacgaa	ctttgtcagt	840
taaagttttg	ataatccggc	aataacaccg	gaagataaat	gccgtttcta	tgtaggtata	900
attatgaatg	atataccgga	tgccaaattg	aatactgtac	aaatccctaa	tggacgatat	960
gctatattcc	ggcatatagg	tagttatgat	ttcttatgtg	atttatatag	aataatttat	1020
gaagaatggt	ttcttgatag	tcagtactat	ccccaaaaca	catttagttt	tgaggtgtat	1080
ataaattctc	catgtgatac	agatgtaccg	gaattgataa	ctgacatata	tatacctgtc	1140
ttaaagaaaa	aaatattcac	tgatattaaa	taa			1173

&lt;210&gt; 4558

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4558

accgttatca	gggaaaggac	gaaactttca	agacattgta	tattcaagga	gcataacgac	60
aactgtcgaa	agctaatcgg	aacggactat	gccaacatca	ccgtaagaca	ttacgataat	120
tgccctaaac	atctcatgaa	actgggttaa	cgtgactaca	aggtagatga	tatgctactg	180
cgtgaggtaa	acgggggaact	gggtgtatata	ctttttgtca	tgttcccttc	ggataaagtc	240
tgccagtcga	ttagaaact	cggtcagttt	gcccggttt	cgctttatca	cgtcctcatg	300
cttttggtaa	caatcgcccta	tcttgatatt	gaacagccat	tcaaccctt	tggtataa	357

&lt;210&gt; 4559

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4559

aaacgattcg	gcatgtcggt	cttcatcaag	cgtagcaaac	tggtaaaaaa	cggggaagca	60
tccgtgtgtg	tgctgtcac	ttatgaccgc	ctatacgtgg	aacttcaact	aaagcggagc	120
ataaaagtcc	cactttggct	gcaggaaaaa	gagaaatcga	caggcaaaga	cctaaattca	180
gtagaactta	actattacat	tgacgtcctg	cgtgtgaaat	tctatcagat	ttacaaaaac	240
ctggaaccgg	agggaaagat	tatctccgca	cgtgccatag	tgaaccgtta	tcagggaag	300
gacgaaactt	tcaagacatt	gtatattcaa	ggagcataa			339

&lt;210&gt; 4560

&lt;211&gt; 474

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4560

tatagtatgg	gaaagatttc	agaaatcgca	ctgtttcaac	aatctgaaac	gtatgcatta	60
gttgtggaaa	tacgtactac	tgtaaaagaa	atagctatgg	ttattggcag	aagctttatg	120
gaaatagaaa	cgttgtttaa	agaacaaaat	gctgtaatgg	cagatgttcc	ttttgtggaa	180
tatcttaatt	ttgaatccat	gtcagaaggt	attcacatga	ttattggatt	caaatacagt	240
aaagtccgtg	gtggaaaggg	gaacataaga	gcgattacca	ttccgggcag	aaaaatagta	300
tcttgcttac	ataaggggaa	ctatactgaa	ttagcttctt	tgtatcgtga	gatgcaggaa	360
tggattgcgg	ctaaagggtta	taaactcttca	ggggcatcga	tagaatatta	ttatagtaag	420
ccgggaactt	cagaagaaga	actggttact	aagggtgaaa	tgccagtttt	gtag	474

&lt;210&gt; 4561

&lt;211&gt; 1977

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4561

aaacgaaagg	gtatgaaaaa	caaatgtatg	ctagtgttaa	ttttactgat	cttgtcaggt	60
acagcatttg	caaaaatagt	gctgccacct	attttctctg	ataatatggg	gttgcagcaa	120
caaaccaatg	cccccatctg	gggtgaagcg	cagcctatga	aaactgtaaa	agtaaccacc	180
tcatgggatg	ggaagacgta	tgcggttcag	gctgataaag	caggaaaatg	gaaagtaact	240
gttcacacgc	ctggttgccg	aggaccatac	gagattgcct	tgacagatgg	taagaaagta	300
aatttaaaaa	atgtgatgat	tggcgaagta	tggatatggt	cgggacaatc	gaatatggaa	360
atgccattag	ggggatgggg	aaagattaca	aattaccaga	aagaaattgc	agaagccgga	420
cactctaata	tacgactcct	gcaaatagaa	caaatcaaca	gtacccaacc	ggaaacgaat	480
ataaaagtcc	gcaatgacag	ttggcaggtt	tgttcaccga	taaccatccc	tgagttttct	540
gctacggctt	atttcttttg	cagagaaatc	tcaagaaaac	aaaatgttcc	ggttggcttg	600
atacatactt	cttggggagg	cacaaacgtt	gaatcctgga	taagtggaga	agtcttgaag	660
gagatgccgg	aattttgtgaa	aacagtggag	tccattcaga	agatgccggg	tgataagaaa	720
atactcaaag	cagaatattt	aaaggagctc	actgcctgga	ataaccgtgt	ggacgaaggt	780
tttgctgaag	gaaaaccggg	aagagctgct	gcattcattag	atgacaaaga	ttgggaaagt	840
atgaatttcc	cgggtgaagt	gggtccacaa	ttggccggct	ttgatggagt	tatgtgggtt	900
agaaaagaaa	tcgaaattcc	cgctagtgtg	gcaggtaaag	atgtacaact	atccctgggg	960
gctattgatg	ataatgatata	tacttattgg	aatggaatag	aaataggccg	tacagatggg	1020
ccgactcttc	aacgcaaata	catcattccg	gaaaaaatgg	taaaggctgg	aaaagcaata	1080
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cgctctacaa	atgatgaaca	gattagtctg	tccggtgatt	ggaaatatca	ggttgctgcg	1200
gatactcata	aggtaggggc	acttcgggta	gacagatccg	tagatcccaa	tttaccgact	1260
tccctttata	atgcaatgat	tcattccactg	atatcttatg	gtattcgagg	agcaatttgg	1320
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atagagaatt	ggcgccggga	ttggaaacag	gattttccat	tctattttgt	gcaactggcc	1440
aatttttatgc	atgaagtttc	ccaaccggca	gaatcagagt	gggcagagct	tcgtgaagca	1500
caaatgcgtg	cattggcagt	aggcaatacc	ggtatggctg	taataataga	cagaggtgac	1560
gccaacgaca	ttcacccata	agataaacia	accgtaggac	atcgactggc	tttgattgcc	1620
cgtgccaaaa	catatgggga	aaaagtgcct	tattccggcc	cgatctatcg	ctcccatcag	1680
attgtaggaa	ataagataat	tctttctttt	gatcataccg	atggtggatt	gaaaagtagc	1740
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aaagctgaga	tagacggaga	caaaattata	gtcagtgcac	ctgaagcggg	accttatccg	1860
gttgctgtgc	gatatgcttg	ggccaataat	cgggtctgca	atgtgtataa	tgagagcagga	1920
cttccggctt	cacctttccg	aacagatgac	tggagaggaa	ttacacaaaa	ggattaa	1977

&lt;210&gt; 4562

&lt;211&gt; 1545

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4562

aaatataata	ttatgtataa	aattacattg	aaaaacataa	aagcaattac	taatttagaa	60
tttcattttt	ctgaaaaaaa	tgggtgtatat	ttgttaacag	gaacaaatgg	ttgtggtaaa	120
acaacacttc	ttattgcatt	aaatagatta	ggtgacaatc	tagcattcag	cagaaatctt	180
agaacaagtt	ctgccggctt	tgattctttc	aaagatgctc	agattattta	tagtacacaa	240
aatgaatctg	ttacttatca	tcgaacagga	attagatggg	ttccaacccc	caaaagtaaa	300
agcaatttaa	ttaagacttt	cccttgccaa	aatatattat	atttgagtac	atctgggtta	360
agattttatg	cacaagaacc	aaaagattta	aaagactatc	atcataatac	agttagtgat	420
gaaataataa	atccttttaa	tgatatatta	cagactgaaa	aatttcgcaa	tcttaaataa	480
ataaaagtta	aaaatataaa	agggaaacaa	cgccgtttac	atagaaacaa	taaattgtat	540
gttataaaaag	attctcagag	taattattac	tctgaacaaa	attttagctt	aggggaaaga	600
cttctattaa	atacacttga	ttttattgag	gcaattaaag	aaaaaagcct	tcttcttatt	660
gatgaaatag	aattagcttt	acatccaatt	gcgcaagtta	aattttacaa	ttacttagaa	720
catatagcta	aagataaaaa	actaatagtt	atcatatcaa	ctcattctag	ttcgcttata	780
aagcatgcca	aacaaagaat	ctatcttgaa	aataataatg	gacagatttc	tgtttttaac	840
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caagttgtcg	aacttatgga	aaaatatcca	acgttatctt	accctataaa	caaaatgcaa	1080
tcaatgcttg	acgcagacgt	caaagatact	tacagagaaa	tattaagaaa	atctgaaaaa	1140

acagatgctg	atgtagcatt	tatcgacttg	tttagaagaa	ataaaaaaaaa	tatcagtttc	1200
ttatccatta	cgccagaact	tggtagcttg	gaatggctga	cttccaattc	taatatcttg	1260
caacaaaata	tagaaagtaa	atatgggaga	ttatctttta	atttaacaac	aaaaatacaa	1320
acagttgaaa	gagaagaagc	tggaaacaaa	aatggcaatt	tgcgtaattg	ggcaaaaggc	1380
tgttttaaaa	acttagcatc	ccaaatatgt	ccattaattg	tagattttca	agaaacagat	1440
ttatttaaat	gtatttttga	aagttatata	gaggatttta	catctgattc	aaccaatatg	1500
aataaaatca	aggctttttt	gggtaaaata	ttaaaccgaa	aataa		1545

&lt;210&gt; 4563

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4563

cgatcgaata	ttttggataa	atthttctttg	gctatccctt	ttccagaatt	ggatatacaa	60
aaaattaacg	actggttttc	cacttttcaac	tctattgtga	taattccctt	gtcggggcgtg	120
tacttaaaag	cgttggatat	taaattgctg	acaatcttat	taaagcaact	gatatccgta	180
ttccattcaa	tgcccgga	aatatgcaac	tga			213

&lt;210&gt; 4564

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4564

tattctgata	tgaaaaatth	attagaacag	agattttttc	ggctattgtc	ggaatgctcg	60
cagcgcaaag	tttctgtttt	cgagttggca	gaagctattg	aggaattggc	tatgcatgta	120
gccaatthttg	gtatcaacga	acaggattac	agcgtttttac	tccgatattt	ttcctttggg	180
ttacatcgte	ttaaatcgta	ccgtatgcgg	tttgagcaag	aaaaaaatgc	cctatttgca	240
tttaattga						249

&lt;210&gt; 4565

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4565

acaatgaaaa	ttgcaaagaa	gttgttattg	gtgattttct	atataatata	tcttctttct	60
tttgtaaaaa	gaagaaaaga	aattatcttt	gtcctcagta	ttctccatga	gcgaactacc	120
gcaaaagctc	atagcaaatt	aatgagaaaa	ttcatggaat	atgctgaaat	aaaagaatat	180
aaagctthta	atattagcgt	ggtaacttta	caaggagaat	tctag		225

&lt;210&gt; 4566

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4566

aattgttact	ttcttataaa	tccgcatggg	agggaaacgaa	tgaaaacaga	gatggagaaa	60
tgcttggccg	gtgaatggta	tgattgccat	gctccggttt	ttctagaact	aaaaggaaaa	120
actcaccgtt	tgttgatgag	atacaattca	ctgtcttatg	aacaaaaaga	agaaaaatat	180
gcgattctga	aagaaatgtt	cggtagtatc	ggaacagagg	tttccgtagg	acattctttt	240
ctctgcgatt	atggatgtaa	tattcatatt	ggtgataatg	ttacggtaaa	tatgggctgt	300
gtgtttgtcg	attgcaataa	gattacagtt	ggtaataatg	tactgattgc	tcctaattgc	360
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tgctgtgatcg	gtggtggagt	tattatattg	cccgggggtta	ctattggtaa	gggaagtgtt	540
attgggtgccg	gaagtgttgt	taccacaaat	gttcctgcaa	acagtctggc	tggtggaaac	600
ccatgtaggg	tgattcgtca	aatcaataaa	tctgaaaatt	atgatccggc	tggtagcttt	660

tga

663

&lt;210&gt; 4567

&lt;211&gt; 513

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4567

gatatgaact	ttttagaact	tacaaaaaaa	cgtttctcgg	tgagaaatta	taagtcagac	60
agggtcgaac	aggataaaat	cgactatatc	attgaatgtg	cccgttttagc	tccttctgca	120
gttaattatc	agccttggca	tttcatgggtg	gtggtcagtg	aagaacaaaa	acagaattta	180
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gctatcgcta	cagagcatat	ctgttttagcc	gcagccgaaa	tagggctggg	aagttgttgg	360
gtgtgcaact	ttgatccgga	attgttttaa	gctaatttca	ggctgtcgtc	cgaaagatat	420
ccggtagcta	ttgtatcatt	gggatatatc	caagagcaac	ctgatcattt	tactatccga	480
aaggacaagg	atgaaattgt	tactttctta	taa			513

&lt;210&gt; 4568

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4568

tctcgaccg	tcgtgaagac	gaaggataca	acggttgtgt	tcataaagcc	gaatattacc	60
ctttccggtg	tagagaagtg	ttccacagga	tatgaattgg	ccaaagggtgc	tgatcccgat	120
gccaacgaac	aggagaccat	ttcgggaagt	atcaaaggaa	gtatcatttt	tcgctatgct	180
gaagcactgc	tgatttatgc	agaggcaaga	gccgaactgg	gtaacatcac	acagaatgat	240
ttagacatta	ccattaataa	actgcgtgat	agggtaggta	tgccacatct	cacactttcc	300
gtaggttata	ccgatccgaa	gggagacttt	acggcagcaa	gaggttatga	gggggtaccg	360
gtttccaatc	tgctacagga	gattcgacgt	gaacgccgta	tagaattagc	atgtgaagggt	420
taccgccacg	atgacttaaa	gcgttggcgt	gccaccact	tatggaatca	cgatagaata	480
cagggggcaa	acgctgctca	gtttgaaaac	ctggatttgt	tagtgaagta	tttccaaaac	540
gacttccaca	ttcccgcgcg	aatcaataag	gcagatttca	tggaaaagggt	ggggcattgg	600
agtcccgaac	gtaatcagga	caactactgg	gtggacagtg	aaggttattt	tgaaccttat	660
caacgccaca	ttccggacgg	acattttcat	ttcgacccaa	caaaagcgta	tcttcagccg	720
attcctactg	aacaatttgt	gttgaatcct	gacttgaaac	aaaatcccgg	ctgggaaaaa	780
tag						783

&lt;210&gt; 4569

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4569

ccaatttttg	tatcaacgaa	caggattaca	gcgttttact	ccgatatttt	tccttttggtt	60
tacatcgtct	taaatcgtac	cgtatgcggt	ttgagcaaga	aaaaaatgcc	ctatttgcat	120
ttaattgatg	aagcgatagg	acttctaacc	accgaaatac	gccttatcga	atggcgtatc	180
aaatacacgg	aacaactaca	acaacgtgct	aataagcaat	tcctttcccc	tctttttctc	240
gctgacaaaa	caacccttat	caacattatg	gaaatggtaa	gcggtctggt	cctctccaaa	300
agcatcatat	atcagaacgg	aaagcctgcc	tattgggtgg	acttatccaa	aggggttgaa	360
tggctgttca	atatcaagat	aggcgattgt	taccaaagc	atgaggacgt	gataaagcga	420
aagccgggca	aactgaccga	gtttcttaat	ggactggcag	actttatccg	aaaggaacat	480
gacaaaaagg	atatacacca	gttccccgtt	tacctcacgc	agtag		525

&lt;210&gt; 4570

&lt;211&gt; 1965

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4570

aacacatcat	ttagtatgaa	aaaacaatta	ctgctgctat	taatttttag	tatttccttg	60
tatattcagg	gacagaacat	acacaagctg	gcttcgccg	atgggaatat	tcagatttca	120
gtgaatctct	cagataaaat	ctactacgat	gtcattttgcc	ggaatgagac	attgttaaag	180
cagtgtcacc	ttgcaatgga	aatcgggtgac	caggaattgg	gaacgaatcc	taaaatgact	240
aaagtaagcc	ataagaatat	agacgagtct	ttaaagcctg	ttattccatt	gaaattttcg	300
tctgtaagta	atcgggtacaa	ccaacttctt	ctagacttca	aaggagggtta	ttccgtagag	360
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aatgtgaaga	atgagaccct	ccaagtgaac	ttccctgata	attattttgct	acacatgcaa	480
cagtcgggaa	gttttaaaac	ggcttatgaa	gaagaatata	cccattttgta	tagcaaagaa	540
tggaaatcat	ctgcctcaat	ggctttattg	ccaattctga	ttgatactca	aaaaggaagt	600
aagatattaa	tcagtgaaac	atcactaacc	gattatccgg	ctgttttttt	gaaaagtaat	660
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aattttccctt	ggcgctatct	tgtcattagt	acagaagata	gccaaactcat	tgagaatacg	840
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gcaggatgca	atctcgatac	ttacaaatat	tttattgatt	ttgctgctaa	ttatggtata	1020
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ttcctgaaag	aaggacaatc	ttatcggatg	acttcttttg	aggatggggt	taatgctaac	1860
cgacaagcta	tggattacag	aaaaaaagaa	tatactctta	aaaaaggaga	taaaaataata	1920
gtgcgtctgg	cacgtaacgg	aggatttgcc	tctgtcattg	agtga		1965

&lt;210&gt; 4571

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4571

aaaatccgga	cgactgcac	cgaggatatt	atgcgtgctg	tcaaagcagc	gcctttcagg	60
aacaggcccc	tccgcagatt	gaactttgct	gcctggtgtt	ctgctattgc	tgcaaccctg	120
cttctcgggtt	tatgggtggc	agaggcagtt	gctgtcgatc	cgattctatc	ctcagagggtg	180
actcgtatac	cgaagcccta	tcaagagcaa	acactcaccg	atgagcgaaa	ctatgagaga	240
ttgatgacag	gagagaagcg	ggagatcttc	ttttccgcgt	cccgaagccg	gaaaaagaag	300
atgttttaaac	gggaacggct	ttatacccg	tacgaacaga	taatgaagaa	tgaataa	357

&lt;210&gt; 4572

&lt;211&gt; 297

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4572

gaaaggagg	catccgggca	accagatgct	ctcttttttt	gttatatttt	atatgcgaac	60
ccttcaaagt	ttaatagtat	gaaacatctc	cggatcatct	gtataccgac	attgactttt	120
gcccggcttc	tgatgtttac	tccctctatc	ttgcaggcgc	aggataagcc	tgtttttccc	180
attgattcac	ttattacagt	aggatatgct	tccggaaata	agaaaaatat	ttccggttca	240

gtagaaaaaa ttacggaggtt gggcatgaat aaagatcaga taaccgatcc gctgtag

297

<210> 4573

<211> 2367

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (2344)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4573

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atagtaaaag	atcagatggg	ggaacctgtg	atcgggtgcca	atgttctcgt	gaaaggaact	180
tctaattggag	ttattacaga	catagatggt	aagtttgcac	tgtcggctgc	caaaaatgat	240
atcttgatta	tcagttttgt	cggttttatg	agtcaggaaa	tcccggtaac	gggaaaagat	300
ttgatggtaa	ctttgaaaga	agataccgga	cttctggacg	aggtggttgt	tttgggatat	360
ggcgcgaaatg	cccggaaaca	agacttgtca	gcggctgtgg	gtgtattgag	taacacggat	420
gacttgacgg	tgcgtccggt	tagctctacg	gaaagtttat	tgcaaggcca	gttagcgggt	480
gttacggtac	aatctaattg	cggtgatcct	acatccactc	cttctattgt	tattcgtgga	540
caagggttctc	aaaatgggtga	caacgtactt	tgggtagtgt	acggcggtcc	gggtgctcct	600
attgcttcaa	tgagtgatat	tgaatctatt	gtcgtattga	aagatgccgc	gtctgctgct	660
atztatgggtg	cgcaatcagg	tgcggggcgc	gttatcctgg	ttactaccaa	aaaagctaaa	720
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cagtatctgg	catatgcagg	aactacttct	gctacagatt	atgtgacagg	gcctgatgcc	1740
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tcttggcgtc	gtgactatgc	cggtcgttta	ccgaaagaga	ataactttgg	tgattttccc	1860
gcagctacct	tagcttgga	gatttcta	gaaaagttct	ttaaaaagag	tgattttcatc	1920
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aattacaagt	cactcttatt	aggaacatca	tactggcaag	aacaagctca	atatggtgtg	2040
ataaataatg	caacctggaa	taattttgta	tataattcca	ctgcaatgaa	taggaacttg	2100
acatgggaga	cttctgaaca	gtgggattta	ggttttagatg	ttgaactgtt	caaaaatcgt	2160
ttggcattgt	cttttgattta	ctttgataaa	cgtaccttta	acttgattca	gaagcaaaca	2220
atgatttggc	caagttctat	cggattggac	acgttggtga	ttaataaagg	tgagattcgt	2280
aatcgtggta	ttgaaaacaa	gctaactgga	accgatcggg	ttaataagat	ttttcctact	2340
tcgnggccgg	gaatttttca	tatctga				2367

<210> 4574

<211> 1794

<212> DNA

<213> B.fragilis

&lt;400&gt; 4574

aaccaaactg	atatattaat	aaataaatagt	attgaaagaa	tgaagaaact	accttatttt	60
gtatcatttg	cagctgcctg	gctattttata	gcagtggctt	ctgcgcaaga	gaatccggta	120
gattatgtaa	atccgttcgt	cggaacgcag	aattacggaa	caacgaaccc	cggagctatc	180
tgtccgcagg	gaatgatgtc	ggttgttcct	tttaaatgtga	tgggggacaa	atccgttggt	240
aataaaatag	ataaagacag	ccagtgggtg	tctacacctt	atgaacatac	caatacctat	300
ttcaccggat	tctcacatgt	taatctgagt	ggagtaggat	gtccggagct	gggctoctta	360
cttttgatgc	ccacaaccgg	aaaattgaac	gttgattatt	tacaatacgg	aagtgcctat	420
aaagacgaga	aagccactcc	gggttattac	tcaaatgttc	tgactaaata	tgggattaag	480
aatgagggtt	cggctacttt	gcgtaccgga	atcagtcgtt	ttacttttcc	caaaggagaa	540
agtaatatcc	ttttgaatct	gggtgaagga	ttgaccaatg	aaaccggggc	taccgttcgt	600
tttgtcagtg	acaccgagat	agaggggagt	aagctgctcg	gtacattctg	ttataatccg	660
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cgtgccgaag	cgctgccc	gtggcagaat	gatctttcac	ggattcttgt	agaagggtgt	1020
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atthttgcagg	acgtgaacgg	acaatacccg	gctatggaag	gtagcgagat	tcttacgaca	1140
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tctatttctc	attcgatccg	atggaaggag	ccaattttgc	tccgagtcct	ggttttcatg	1740
aggggaactc	ctggaattat	acattttatg	ttccccatga	tattgcaggc	ttga	1794

&lt;210&gt; 4575

&lt;211&gt; 567

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4575

gctatggaac	agaatgagat	acagggtattg	gtagaaaaga	gcaggaggca	agatgcaagt	60
gcatttgcctt	tgcttggtgc	ggaatatcag	actttcggtt	ttcgcttggc	tttccgtctg	120
ttgttgcgtg	aagaagaagc	ccgggatatg	gtgcaggaga	cttttttacg	tgtctggctt	180
tcattggata	agtaccggcc	ggaattccgt	ttctccacct	ggctttacag	ggtagcatgt	240
aatatctgtt	atgatecgtc	gcgggctttg	cagcattctc	cggccggtgc	gctctctgat	300
attacatttg	ccgaactgcc	tgtctgtttc	gatgataata	ttgaagccac	gttagtcaac	360
cgggagctga	aagcccata	cctgtacttc	atgcaccaag	tgaccctaa	gcaaaagctt	420
gtattttccat	tgcgggatat	cgaggagttg	gaaatcaagg	aaattgagaa	gatcaccgga	480
tttacatctg	tccagatcaa	ggccaatctc	tatcttgac	gaaaaagtat	ccgtaagaag	540
ttgaacgaaa	taaataaaga	aagatga				567

&lt;210&gt; 4576

&lt;211&gt; 1080

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4576

aaacagatgc	atatgaaaac	gaatagactt	ttatcgatat	tgctgttggt	ggtttcaatg	60
gtgtcttgca	ccacttatta	tcagggtgaag	acccggattc	atcctgatgg	ttcggcccat	120
aggggaagtat	atgcttttgc	cgattctgca	ttcatggccg	gagatccgat	gaaaaaccct	180
tttatgtttt	ctttggattc	cggttgggtg	gtgacacgtt	tcgattctgt	ccgtactcac	240

aattatTTTTg	gagaagaggg	aaagattaac	gtatgtgccg	gcagggaaga	gccttctgtc	300
agcatgTTTTg	cggagcaggt	tcatacctaaa	gatccgatat	accgtccctt	ggtgactcct	360
caggagacac	tgaccaaaca	ttttcgttgg	ttctacacct	attataccta	taccggcatc	420
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aaagaattgc	tcgatcgggt	ggaaaagaaa	ttttacgact	ggtacaaccg	aagtctttat	600
gaattaagtt	tcgaagtatt	ccggcctttt	atcgctgaga	tagatcgggg	gaagtatatg	660
tcccgtctgg	atgaagttaa	ggattcattg	tatctcggct	atcaacctaa	agatgatgat	720
ccggatcctg	atccggaact	catttgccaa	ttgctcgata	cgcattatca	taccgactgt	780
ttttctctgc	tttataagga	aaagcaacag	gaagtagata	aacgctttga	cgaagagaca	840
cgtccgattg	aattgttcgg	agccgtgatt	caatatgaac	ttaaaatgcc	cggacaaatg	900
atctcagcca	atacaacttt	cagagatcgc	gaatatctgg	tttggaagt	ggatgcttac	960
cgtcttttgg	cgggtgaata	ttccttgacg	gcccgatcac	gggtacccaa	tgtctgggcc	1020
tttatcctta	ccggtgtact	gattcttttg	ggaataggct	tttgataaaa	aaagcgatga	1080

&lt;210&gt; 4577

&lt;211&gt; 2520

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (204)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4577

aataaaaaaca	aatcaatcat	gaacaagaaa	atcaaaattg	catttgcttc	gatgctcgct	60
gtgccgctgt	tggcgtgtgc	gcaagtccgt	acggaacaaa	cctttgagaa	gggatggaag	120
ttcactcgtg	aggatagtaa	agactttagt	aactctacgt	atgatgatgc	gaagtggcaa	180
tctgtgaccg	ttccgcatga	ttgngctatt	tacggaccat	tcagtattaa	taatgataaa	240
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&lt;210&gt; 4578

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4578

aaaccttttaa	atggatatgc	tatgaaactg	tcaattgatt	taggaggaac	aaatgttcga	60
attgcccaag	tggagaatgg	tatctgtttg	aacaagatgt	ctgtaccttg	tcttgcgcaa	120
caagatgctt	cagcgggtact	tgatcagctt	tttcaactta	ttacgggtat	gatgaacgtc	180
caggtggatg	gtattgggtat	cgggtgtccct	tcaattgtag	atgtggaaaa	aggtatcgtg	240
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cgattttatgg	tgccggttgc	tattaacaat	gactctaatt	gtttcacttt	aggcgaaagt	360
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ggtgcggggtg	ttatcattaa	tcacggttg	tattgtggtc	aatatatggg	ggctgggtgaa	480
ataggctcgc	ttccttatct	ggattctgat	tttgaacatt	attgcagtag	ttctttcttt	540
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gcgctggaaa	tctggaggga	atltgggacg	catctgggta	atltgatgaa	agtaattctc	660
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gtgaaaataa	ttacttcata	tttgaaggat	gctagcttat	taggagcttc	cgctttgttt	840
gagaaacaat	atltaccaat	atctattata	aacaattaa			879

&lt;210&gt; 4579

&lt;211&gt; 1704

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4579

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&lt;210&gt; 4580

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4580

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&lt;210&gt; 4581

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4581

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&lt;210&gt; 4582

&lt;211&gt; 1635

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4582

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&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4583

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&lt;210&gt; 4584

&lt;211&gt; 2526

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4584

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&lt;210&gt; 4585

&lt;211&gt; 1044

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4585

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&lt;210&gt; 4586

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4586

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 <213> B.fragilis

<400> 4587						
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aaataa						786

&lt;210&gt; 4590

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4590

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&lt;210&gt; 4591

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4591

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&lt;210&gt; 4592

&lt;211&gt; 1722

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4592

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&lt;210&gt; 4593

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4593

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atcctaaagt actttcatcg gtatatggag atttatattcg attttaactt cattgtaagt 180
tag 183

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&lt;210&gt; 4594

&lt;211&gt; 243

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4594

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taa 243

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&lt;210&gt; 4595

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4595

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&lt;210&gt; 4596

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4596

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tacctgtaa						249

&lt;210&gt; 4597

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4597

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&lt;210&gt; 4598

&lt;211&gt; 1644

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4598

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&lt;210&gt; 4599

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4599

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cgtgccacat tattagtaaa caaataa 627

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&lt;210&gt; 4600

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4600

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ctacaagatg ttgaaagtgt agtgcttttc tacggaaaca actatatata a 231

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&lt;210&gt; 4601

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4601

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 <213> B.fragilis

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 <213> B.fragilis

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 <213> B.fragilis

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&lt;210&gt; 4605

&lt;211&gt; 1473

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4605

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&lt;210&gt; 4606

&lt;211&gt; 3504

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4606

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&lt;210&gt; 4607

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4607

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 <213> B.fragilis

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&lt;210&gt; 4611

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4611

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&lt;210&gt; 4612

&lt;211&gt; 2568

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4612

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&lt;210&gt; 4613

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4613

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gcaccacaga	gcatggaggc	tggaagaatg	atgcgggtgg	tggggctgcc	gaataagcca	240
cgggctacgt	ga					252

&lt;210&gt; 4614

&lt;211&gt; 858

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4614

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gatgacaaag	gtctgaatac	ttttttactg	cctttacaat	cagagaatga	acgatatgaa	300
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cagaaggata	tagtcagcta	tggtgacaag	gttgtatatg	agattgggaa	aaccagcttt	420
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&lt;210&gt; 4615



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 <212> DNA  
 <213> B.fragilis

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 taccaaatga aagacactat tctgattgtg gcaggcgatt gtggttttgg ttttgaaaag 180  
 aaagaaagct acgagaatat ggtgaaacag aatgtcaaac gtatgaacga agctaacaac 240  
 tggatagtat tcattcgtgg taatcatgac aatccggcat attttgatgg ttacaccttc 300  
 aaatataaga gatttatagc catacccgac tatactattc ttcaagcacg ttctcatact 360  
 gtattatgtg tgggtggagg catttccatc gatcgtcagt atcgcttgca agcatgggag 420  
 aagaaacagg tacgatcagt ttctgagagt tcaacggata aactggcaag aaatgtgtat 480  
 cggagcactg aagcaccggt gttcgacaag gagaagatgg ttacgattag tgccaaatat 540  
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<210> 4616  
 <211> 486  
 <212> DNA  
 <213> B.fragilis

<400> 4616  
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 tcagcatgga atatccatgg actcacgaca tccttacctc aagcttatca tgtagcgata 180  
 aaaaggggga agaaaattcg ccttcggaa tatccaccta ttgcacttca cttccttgcc 240  
 gaatctattc tagaacttgg tgcagaagag aagggttgta gtaactatga gattaaagta 300  
 tataatgtcg aactctctgt ttgcgatgcc atcaaattcc gaaataagat tggaatcgat 360  
 gtttgttcta aagtagtcaa caattatctg gcacttccca atcgagacct aaccctattg 420  
 atggacaatg caaacaact acgtatagca aagacccttg aaaaatatct tgaaataaaa 480  
 ctataa 486

<210> 4617  
 <211> 198  
 <212> DNA  
 <213> B.fragilis

<400> 4617  
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 acgggtaag atagaattaa tgatacgcaa ttgatattt atggccttgag attagttgtt 180  
 agattatttg ctttgtaa 198

<210> 4618  
 <211> 249  
 <212> DNA  
 <213> B.fragilis

<400> 4618  
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 caattgagga aagatccggc tactgtctct aaatggtgta caaatagtgc acaacccaat 180  
 cttgaaaatc tgatagaaat agctaagtgt cttgaagtaa gtgtgaatga gttaattaga 240  
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<210> 4619  
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 <212> DNA  
 <213> B.fragilis

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tcagcgagat ag 252

<210> 4620  
<211> 375  
<212> DNA  
<213> B.fragilis

<400> 4620  
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<210> 4621  
<211> 213  
<212> DNA  
<213> B.fragilis

<400> 4621  
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aaaagagaaa atataaacc taacaactat cacctatttg agaatgaggt tatttcaatt 180  
aaaatagaag taaaaaacia gtctttttat taa 213

<210> 4622  
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<212> DNA  
<213> B.fragilis

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&lt;210&gt; 4623

&lt;211&gt; 2889

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 4623

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&lt;210&gt; 4624

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4624

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ccgttcggga	gagtactgaa	tagtgcctgt	ttatggaatg	atgtgaatat	taaaatagaa	840
cggtcagtc	acgcgacgca	gcggatctcc	ggaaaattca	ggcaaagcga	ttctttggag	900
agtatatata	aagccttgca	aggcgctatg	cctttcaagt	ataaaatagt	tagtgaagaa	960
gaaataatta	tttattga					978

&lt;210&gt; 4625

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4625

attccactaa	aattattatt	catacctttg	tggatcgtat	tacaaagaac	ccaatcatat	60
atgcaaaaaa	gacttatata	tttatccatt	atcttctttc	tgctatgtcc	tgccctggta	120
gttgcgcgaga	acagtcctct	tgaaactcaa	ctcaagaaag	ccatagaagg	gaaaaaagcc	180
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cattatccta	tgatgagtgt	tttcaaattt	catcaggcat	tggcattggc	cgattacatg	300
catcatcaaa	agcaaccttt	ggaaacccgg	ttattgatta	aaaagtcgga	tttaaagccg	360
gacacctata	gtccgcttcg	agaaacatac	ccgcagggag	gaatcgaaat	gagcattgcc	420
gatctactga	aatatacgct	tcagcaaagt	gacaataatg	cctgcgatat	tctttttaat	480

tatcaagggtg	gtccggatgc	cgtgaataag	tatcttcatt	cattgggaat	tctgtaatgt	540
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agtgaagatta	tgcagaaaat	ttcgcgcctc	gtttacgaat	acgtaacgca	acagatagat	960
taa						963

&lt;210&gt; 4626

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4626

atgaatacaa	acgaaaggcc	cgaaatgaca	gaaaaacagt	catgtcattg	gtatcttgc	60
tttactgctt	ctcgggcaga	gcaacgcgtg	aagcaagaac	tggatcagcg	gaaagtccga	120
aactatcttc	cactacgtaa	aattacttat	caatggcagg	gacgttccaa	ggaggcatta	180
tgtccacaaa	tagctcgttg	cgtccttatt	tggacgtcat	tgtccgacat	tccggcagtt	240
tccggaatat	caggattgat	tattcctcaa	aacatctggg	attatcgtgt	tccggaatgg	300
cagggtgaaa	gttatcaact	attgttttct	caaattggata	ccgctgtgga	atggataccc	360
gattgcttgg	aatccgccac	aatggttcgt	gtaacaggag	gtcctttgac	tgggttagtg	420
ggcgaactgg	atacttcgga	cacagggttt	cggataagga	tccgttttca	ttctatggga	480
tgttttcgtg	ttgctgtacc	tgaagaatgg	attgaaaaat	tttaa		525

&lt;210&gt; 4627

&lt;211&gt; 1269

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4627

acaatgaaaa	agctactgg	atatgctgac	tttgattggc	tgaagatat	tgaacttacc	60
ggagagctaa	gctacgaatc	gcttcgtgg	tcagatagct	atgcttttaa	attcaatgat	120
gaatggctga	agctatatgg	taacctat	attagtgcgg	acttgaataa	ctacaaagga	180
ctacaatata	cacaaccgga	gaaagatat	ttcggatgct	tctccgatgc	cttggccgac	240
cggctggggac	gtactctact	taatcgtaga	gagcagatct	tggcttccga	agagaaacga	300
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catctatttg	ctaaaaaagc	aggaatcaat	gcagcatcta	cgcgagtaat	ttccacaagc	720
gacaagtacc	acactctctt	atcacgtcgt	tttgatagaa	aagatgacgg	caaacggata	780
catttttgct	ctgccatgac	attacttgga	ctctcggacg	gtgctaacgc	aagcaccgga	840
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ggaataacga	acagcgaat	ggaattat	ggaagtacca	ttagtaatat	aattaaagaa	1260
cacatctaa						1269

&lt;210&gt; 4628

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4628

ttagaaatga	ataagaagaa	tagtccatat	acagctacaa	taaccggatg	cgcattttctc	60
tataatgagt	atttgcgtat	actaccatta	ttgatgtccg	aaaacgcaac	tgaactactg	120
aaagatgaag	ttaaaaccaa	ccaaatcttg	caagtaaatt	cacagaaggc	cgggcaaacc	180
tttatcacgg	aattttaaag	cagatataat	gctgttcccg	ctaccttttg	ggtgaatttt	240
cagacaatga	ctgaacaagc	ccaacgtgct	ggtttacttt	atgccatcct	aaaagcttat	300
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gtagacagtt	ggactgataa	cacaaaagac	cgttgtgcca	gccagtatct	gaccatcttg	480
cggcaagcag	gcttatttaa	cagtaagaca	gatgaactga	aaccaattca	tcttgaacca	540
tccgactaca	cattttatat	ccgtagcggc	gaagagtggg	ttttggaagc	ttgcttgctt	600
tatccatacg	aagtgaatga	tataaaatcg	caagtaaaat	ga		642

&lt;210&gt; 4629

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4629

cgaagtagtg	aaacggaaaa	agaaattatg	ttggccaagg	gtgtgaaaat	agtatcgggt	60
aaagttgaat	tcaacccaac	cgggaagaat	ggtgagcgaa	tccacgggtg	gtttgcccc	120
aatggacact	cagggttttcc	tatgaaaggt	tttattaaga	aataccaatc	ccttggccag	180
ggtggttaagg	tttaccocaaa	cggggattga				210

&lt;210&gt; 4630

&lt;211&gt; 3648

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4630

atccaatacg	atatgaaatt	taaagactta	tatgaaaaag	ggcttgaccg	aaaagttaat	60
cctgccgtat	cagcctccga	cctcagtga	gatactgtac	tcaccgaaat	agttgaatac	120
gtctttacac	aagagattat	tgtaaacctc	tatcatattc	ttatcaatat	caagataaat	180
caaggtagtc	atgtcgggtat	atggatcaat	ggttattatg	gttccggaaa	gtctcacttc	240
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&lt;210&gt; 4631

&lt;211&gt; 2187

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4631

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tttgatgaaa	aacgaatcta	tttctcttcc	aagaaaaaaa	aaggaacgca	ggaatactat	660
aaccatccgt	cttttcttag	aaaagataat	aagaatcgta	ttccttttct	gggattcggg	720
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ctcaaggaac	gtttggaaat	atataaagct	caagaacaat	tgaatgaatt	aacaaaaaag	2160
ttaaagtata	aatacttttt	gggatga				2187

&lt;210&gt; 4632

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4632

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 <212> DNA  
 <213> B.fragilis

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tattcgctct tacttaagca tcttcctatt gccaatattt tgggtttattc tatagagaca	180
gttattgccg agaaaatgca taccgtagtt gacttggcag accaaagtag ccgtatgaaa	240
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 <213> B.fragilis

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atcatcactt atagttttat ttcaagatat ttttcaaggg tctttgctat acgtagtttg	240
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 <212> DNA  
 <213> B.fragilis

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cagctgattc aaaaccctgt aacaatagat tctcagataa agtcaatcga tttgatgcac	180
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&lt;210&gt; 4637

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4637

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&lt;210&gt; 4638

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4638

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&lt;210&gt; 4639

&lt;211&gt; 1983

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4639

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&lt;210&gt; 4640

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4640

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&lt;210&gt; 4641

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4641

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&lt;210&gt; 4642

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4642

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<212> DNA

<213> B.fragilis

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<211> 1191

<212> DNA

<213> B.fragilis

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gaaccgggtg	gtgaaataat	tgtgcccgac	aaaggagAAC	ggaagaaaat	gactacggca	2100
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&lt;210&gt; 4648

&lt;211&gt; 237

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4648

aggaatattt	catatcttta	taaccaaata	aatgaacatc	aatattttaat	tgatatgaac	60
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ggcaaaagtt	ttagatacac	taaaaccgat	gcctgcaact	actgtcacc	cggcttagag	180
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&lt;210&gt; 4649

&lt;211&gt; 702

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4649

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&lt;210&gt; 4650

&lt;211&gt; 255

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4650

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acaacaccgg	ccatgcaccg	gaaatcattt	aaagagcaag	aaccggctat	tttttccatt	180
atcggattcg	ccgttgcccta	tattgctgcc	ctgattatca	accgatcat	caagacgaga	240
aaaactcacc	attaa					255

&lt;210&gt; 4651

&lt;211&gt; 1347

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<220>  
 <221> unsure  
 <222> (1259)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4651

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ttgaagaaag	acttgctgtt	gcccacgcac	accgtttttc	cccatcgcgc	cgactacatg	360
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cggaaatatg	aagcgagcgg	ttatgtaagt	gctgtggctt	cgctgaaat	catggaggcg	1020
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<210> 4652

<211> 3210

<212> DNA

<213> B.fragilis

<400> 4652

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gatcttagaa	aaatgtgggg	tgacattcca	atggttctct	gtgccggaaa	agactatacc	480
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&lt;210&gt; 4653

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4653

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&lt;210&gt; 4654

&lt;211&gt; 1188

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4654

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&lt;210&gt; 4655

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4655

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&lt;210&gt; 4656

&lt;211&gt; 1794

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4656

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&lt;210&gt; 4657

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4657

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&lt;210&gt; 4658

&lt;211&gt; 891

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4658

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&lt;210&gt; 4659

&lt;211&gt; 600

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4659

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&lt;210&gt; 4660

&lt;211&gt; 1407

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4660

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&lt;210&gt; 4661

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4661

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 <213> B.fragilis

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 aatggaaaaa acagtatggg aatacgttta aaagatttta gtaaactggg atatagagat 180  
 aatgtagctc gtagtctggc ttgttactct tctaggcaaa tattgtaa 228

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 <212> DNA  
 <213> B.fragilis

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 ccgacaggaa ggagcatgcc gcatccgaaa ccttcgatca cccgccagaa gatcagctct 180  
 tcgatggtag atgaactgcc acacatgaag gaaccggccg taaatacgag tagggacaag 240  
 aaatatatct ttttataa 258

<210> 4664  
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 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 4665

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4665

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&lt;210&gt; 4666

&lt;211&gt; 1071

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4666

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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<211> 1218  
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 <213> B.fragilis

<400> 4669

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<210> 4670  
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 <212> DNA  
 <213> B.fragilis

<400> 4670

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&lt;210&gt; 4671

&lt;211&gt; 1872

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4671

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ggccatgccca	tcaatatctt	tatgaatgtg	ctcggagcca	tggttcatcc	tatgcgtctg	1800
accttcgtgg	agtttttcaa	gaattccggg	tacgaagggtg	gtggcaaaga	gtacaaacca	1860
ttcagaaaat	aa					1872

&lt;210&gt; 4672

&lt;211&gt; 429

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4672

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attgcgcggg	gaggcgaacg	tgtaggaatc	tattattttg	aaaccgggtg	agctatgcgt	300
cccagtaaa	tgattttacga	tcgtgcccac	tctgcccattg	ccgaggccgt	tgacgcggac	360
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gccatctaa						429



<210> 4673  
 <211> 360  
 <212> DNA  
 <213> B.fragilis

<400> 4673  
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 ggtgacattc ataaaaacaat agacgatatt tcgcaacgga tgctgactgt tactctccgt 180  
 acgttggagg ccgacggggtt ggtggaacgg aaagcatatg cgggaagtacc accgaggggtg 240  
 gaatattgcc tgacggaaat gggacatagt ttgattccac acgtcgaagc attggttgga 300  
 tgggcactgg atcatatgac aatgattttt gaacatagag aacaacagaa agggttatga 360

<210> 4674  
 <211> 759  
 <212> DNA  
 <213> B.fragilis

<400> 4674  
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 ttgtcaatca aaacaaaacc cttatctttg caccgcctat tacgagttag tagcattaat 180  
 tcaaatcatt cattaataaaa acattttattt aaaatggcaa caagaattag attgcaaaga 240  
 catggacgta aaagctacgc ttctactctt atcgttattg cagacagcag agcaccacgt 300  
 gatggtaaat ttacagagaa gattggtagt tacaacccta acaccaatcc tgctacagta 360  
 gatttgaatt tcgaacgtgc cttgcactgg gtgctggtag gtgcacaacc ttcagacaca 420  
 gttcgcaaca tcctttcacg tgaaggcgtt tatatgaaga aacacctcct cggcgggtgta 480  
 gctaaaggcg catttggtga agctgaagct gaagctaaat tcgaagcttg gaagaacaac 540  
 aaacagtcag gtctgtctgc tctgaaagct aaagaagagg aagctaagaa agctgaagca 600  
 aaagcacgtc tggaagctga aaagaaagta aacgaagtaa aagcaaaagc attggctgaa 660  
 aagaaagctg ctgaagaagc tgctaaggct gctgctgaag ctcccgcaga agaagctgct 720  
 ccggcagaag aagctgcaac tgaagctgct gctgaataa 759

<210> 4675  
 <211> 1344  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (110)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 caatctcttg gggttaaaac gctgtatccc gttataaatc atccagccgn tcatcaaacc 120  
 tactactatg aagatcagga tcgtaatgcc cactcccaga ttgtctccct taatgcgcga 180  
 ccagatttca agaacatctt tcgtcttatc gccgaaatca cgaatcatgg cacaacgttc 240  
 taccacctta cggtcggggt actgtatctt gtcaatctgc aggctgtctg ctcccggctc 300  
 gaagaaatag ctcaaatccg aataataagt cagggtggtg tctgtcttcg cctccatgat 360  
 ttcaggcgaa gccacagcac ttacataaacc gctcgcttcc atattccgca aagcaatgtc 420  
 gggacggcac ataaagtga tgaaatagct ggcagcttcc ggattaccgg catacttagg 480  
 aatcaccagc ccgtcatacc agatgttgct tccttcccga ggcaactacat agtccaggctc 540  
 cactcctacc gcatccgctt cttcgatggc ccatttggca tctccgctcc aggtcatatt 600  
 gagccatgct ttatttttgg tcatcatctc ttaccggaag tctgcctccc aaccggctat 660  
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aattttcaat	accttttcgc	ggggctcacc	ggaattgtaa	caaccggaaa	gcataaacga	1320
cgctgcaagg	caaagagtta	ttaa				1344

&lt;210&gt; 4676

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4676

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gatatgttcg	ctctatatga	tgaagacaag	ctcagggcgg	tttgtgtggg	tactaacgag	180
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ccttcccatac	gtattaagaa	ttttttcacc	gaccattatg	atcatacctat	ttatgagaac	420
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&lt;210&gt; 4677

&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4677

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gccgattttg	ctcacaatgt	gtttaagtat	gtccgtaaag	gtcatgtaca	aacaggggag	660
catttgacac	gtcattggaa	acgtgcccg	ctggatatggg	agttgaaaca	agagaaagga	720
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&lt;210&gt; 4678

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4678

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&lt;210&gt; 4679

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4679

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cccggcctga	ggaatttag					198

&lt;210&gt; 4680

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4680

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tttaagtgtt	ttctgaaaag	acttaagcgt	tttccgaaaa	cacttaagtc	tttttttatg	180
ctctga						186

&lt;210&gt; 4681

&lt;211&gt; 1548

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4681

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&lt;210&gt; 4682

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4682

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ctaactacta	aaataaaatg	ccaaatgaaa	attaagagtt	tactgactat	gatgtttgtg	120
ctgtgcgctt	gtgcagcttg	taatgacgac	aaaaatgaag	aaacacctct	caatcaagta	180
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&lt;210&gt; 4683

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4683

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&lt;210&gt; 4684

&lt;211&gt; 354

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4684

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&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4685

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&lt;210&gt; 4686

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4686

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&lt;210&gt; 4687

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4687

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&lt;210&gt; 4688

&lt;211&gt; 4404

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4688

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aaacgtcgtgta aaacatcaga ataa

4404

&lt;210&gt; 4689

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4689

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&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4690

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4691

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&lt;210&gt; 4692

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4692

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&lt;210&gt; 4693

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4693

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&lt;210&gt; 4694

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4694

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&lt;210&gt; 4695



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 <212> DNA  
 <213> B.fragilis

<400> 4695  
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 <212> DNA  
 <213> B.fragilis

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 gataaggtag cagccgaaga ttggggatat gttaccaaga aatgtaccga agccttagaa 660  
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 <212> DNA  
 <213> B.fragilis

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<210> 4698  
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 <212> DNA  
 <213> B.fragilis

<400> 4698  
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&lt;210&gt; 4699

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4699

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&lt;210&gt; 4700

&lt;211&gt; 2523

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4700

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taa						2523

&lt;210&gt; 4701

&lt;211&gt; 705

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4701

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&lt;210&gt; 4702

&lt;211&gt; 240

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4702

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&lt;210&gt; 4703

&lt;211&gt; 1413

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4703

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<210> 4704

<211> 615

<212> DNA

<213> B.fragilis

<400> 4704

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<210> 4705

<211> 1320

<212> DNA

<213> B.fragilis

<400> 4705

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&lt;210&gt; 4706

&lt;211&gt; 1782

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4706

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&lt;210&gt; 4707

&lt;211&gt; 807

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4707

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&lt;210&gt; 4708

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4708

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&lt;210&gt; 4709

&lt;211&gt; 402

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4709

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&lt;210&gt; 4710

&lt;211&gt; 2067

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4710

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&lt;210&gt; 4711

&lt;211&gt; 492

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4711

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&lt;211&gt; 1623

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4712

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taa						1623

&lt;210&gt; 4713

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4713

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&lt;210&gt; 4714

&lt;211&gt; 228

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4714

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&lt;210&gt; 4715

&lt;211&gt; 204

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4715

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&lt;210&gt; 4716

&lt;211&gt; 1560

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4716

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&lt;211&gt; 2208

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4717

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&lt;211&gt; 195

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 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

<400> 4722

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<210> 4724

<211> 1182  
 <212> DNA  
 <213> B.fragilis

[illegible]

<213> B.fragilis

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&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4726

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&lt;210&gt; 4727

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4727

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&lt;210&gt; 4728

&lt;211&gt; 1821

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4728

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&lt;210&gt; 4729

&lt;211&gt; 1410

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4729

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 <212> DNA  
 <213> B.fragilis

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<210> 4731  
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 <212> DNA  
 <213> B.fragilis

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 gaaaccactc ttttcggtac tgaccgcacc tttacgttta tcggaatgct ggggtatctt 180  
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<212> DNA  
<213> B.fragilis

<400> 4732

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<212> DNA

<213> B.fragilis

<400> 4733

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 <213> B.fragilis

<400> 4734

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 <212> DNA  
 <213> B.fragilis

<400> 4736

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4737

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&lt;211&gt; 2649

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4738

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agacgggaag	aagggaagat	ccggttacat	ctgggtctgc	cttcaacggc	tatggctact	2580
gttgttttgc	ccgggcagaa	gccgaaagct	gtgaaggggg	gcgaacacat	ttttgtcatt	2640
cccgaatag						2649

&lt;210&gt; 4739

&lt;211&gt; 819

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4739

aagcacagta	taagcgaaat	cggttttgcc	ggcacggaag	aggcattaga	cgacatggta	60
aaaaaaataa	aagccaaagt	agacggacgt	ctggagaagt	tgagtgacaa	ggcaaaagca	120
ttatatctcc	cggcaggaaa	cgaggctcgt	atcaaagctg	cttatgacag	ccgtgatcct	180
cgtttatccc	aaactgtcat	cactccatat	gctacatatg	acggttcggg	aaacagtgtg	240
gaccacacct	tcaacttcacg	ctggccctac	tatggtgctg	acaccgatta	tccttatgac	300
ttacgtactg	acactcagag	ccattttatac	tatttgttcc	gcaaatttgt	tgctgaagggt	360
tcaagtgaga	tgaccaatcg	tgaacaatct	ccgattgacc	tgccaattat	ccgctacgca	420
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acagcagggtg	aaggagttga	cttttacgaa	gaactccgtt	ggaaaacatg	gaaagaaagt	660
aaattttaata	atgctgatgg	tacagccggg	atgaaagatg	tatgggggac	tatcacctat	720
ccttacacat	ggggaggaga	ccaatattat	gtatggccaa	tcccaaaaca	tgaaactgat	780
atgaacaaat	ccctgaccca	gaattcgggc	tggaaattaa			819

&lt;210&gt; 4740

&lt;211&gt; 1065

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4740

ggagggtatct	ttgacatcga	cggaagaaa	attcaggtcg	aagaagaaca	attaagaacg	60
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caggctccgg	gtttctggga	tgaccagaag	aaagccgaag	cacaaatgaa	actggtgaag	120
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gcaaaggcat	tagagcatgt	cgagaatctg	gaattgcaga	acatgcttcg	tgatgaggct	300
gaccaaata	gttgctgact	gaagattaac	tccggtgccg	gtggtacgga	gagtcaggat	360
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accatggcca	acttcagga	aggtgatgaa	gcggtatta	aaacttgtag	catacagatt	480
gaaggcgact	atgcctacgg	gtattttgaaa	ggtgagaacg	gtgtacatcg	tttggttcgt	540
gtttccctt	ataatgcgca	gggtaagcgt	atgacttctt	ttgcttcctg	atttgtcact	600
ccattggtgg	atgacagcat	cgaggtaaat	attttgcggg	cctgtatctc	ttgggatact	660
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catcgacta	acttccagac	ctctgatgta	aacggagtga	tggatggaaa	aatagaagga	1020
tttatcaaag	cctatctgat	ggaattttct	tccgaagaag	cttaa		1065

&lt;210&gt; 4741

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4741

aaaagtatca	tgaaaacaca	agtggtttaa	ttagcctggt	taattatctg	tttattaacg	60
atagttccca	attgccatgc	cggcagcaag	tggaaagcca	aacatgtagt	tttgattggg	120
ttggacggct	ggggttccta	cagtgtagag	aaagctaata	ttccccatat	caaacaatta	180
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aactgggcat	ctatgttcat	gggagcaggc	ccggagctac	acggatacac	gacttggaat	300
tcaagcacc	cggatcttcc	ttcgaaagaa	ttaagtaaag	atggcatttt	tccaactata	360
ttccaattgc	tccgcgaagc	tgatccgaaa	gctgaaattg	gcactttcta	cgaatgggtc	420
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gaaaaacatc	ctacggaact	atgcgaaaca	gccgtgaagt	atattaaaga	gaaaaagccg	540
gctttaacac	ttattgocctg	ggataatccg	gatcatgtgg	gacataagga	aggatcatgat	600
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gcggtgaaag	aagccggaat	actggatgaa	acgattttta	taataacatc	cgaccatggc	720
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gctgctaccg	tggtgccc	tttcaaactc	aagcagccac	aagtatggat	cggaaggccc	900
ataatggaag	tatttaagta	a				921

&lt;210&gt; 4742

&lt;211&gt; 408

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4742

agttgtttta	tggtaaatca	agatgcaaag	gcagcttgta	tgggattgct	gaatctgaac	60
tctctctggt	tttatgattt	aaaaggaaat	ctgatgaaag	aaatagtgat	agggaaagag	120
ttgaaattcc	cggagtatga	ccctgagttt	cttgattttc	cgaatgcact	taaataatttc	180
atctctcttt	gtggtactcc	caattatctt	tatgcccttt	ataacgggtt	ccgggtact	240
tcgggtgaat	caaagattat	ggtctttacc	tggcaagggtg	ctccggatgc	catctatcag	300
acagatgtaa	aattggaaa	aattgctgat	gctccatccg	gtagatatgt	attgggactg	360
aatataacgg	aagaagtagg	gagtgatgtg	ctgaagtttg	aacttttag		408

&lt;210&gt; 4743

&lt;211&gt; 1545

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4743

agacatagga	tgaaacgaac	caacagaaca	ttattcattc	ataatacagc	aagagggaga	60
ataaaatttc	ttcttcttgc	tctatttgct	tttcaaggct	tacaagcaca	aaagctattc	120
cccgtcctt	ctgcgataga	gacacataaa	ggtacattct	cttatgacga	agtttcggct	180
aagtgtgtac	gaactactat	ctctaagtct	ctacctgcta	tcggcataga	atactcggt	240
gaagcatatc	aactggaaat	tacaccggat	tctatcttca	ttgatgccac	ttctgcgaaa	300
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agccgccact	tcttcggtaa	agagaaagtt	aaacaatacc	tcgaacttaat	ggctttactc	480
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gaagaaactt	atcgttttat	cagcgatgta	ctcgatgaaa	tagtagccct	cttcccggct	840
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tacttcatcc	gccgtgctgc	cgatctggta	gcggccaaag	gtaaaaaat	gattggttgg	1020
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gaaccgggcg	gaccggagaa	agcggacgta	ttacaaaacg	gatag		1545

&lt;210&gt; 4744

&lt;211&gt; 1215

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4744

aacatgaact	taaaaccctt	attgggagca	gcctgcgcaa	tgatatgtgt	ggcttgetca	60
aaccacaaac	ccacagtacc	gtcttttata	acagaaaatg	tagaatttgc	caaagcacaa	120
ctcggtttgg	ccatcgacac	catcgaaagca	agcggaaaat	gtctcaatcc	tgtaactctc	180
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ggtagactct	ggatatctgta	cgaactgaca	ggtgacacca	gctatcttcc	actggccaga	300
aaatatactg	aagccattcg	cccggccgag	cacctgacct	ggcatcacga	tataggattc	360
atcatthaatt	gcagtttttg	taacggcctg	aggctcgctc	ccgatacagc	ttcatataaa	420
gacgtaatgg	tacaggcagc	caaatcactt	tgtacgcgtt	tccgccccaa	tgccggagtc	480
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cgtoctgatg	gaagttgcta	tcacgtagtg	gactacaata	tttcggacgg	ctccgtacgc	720
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ggcactaacg	gcaattttat	cctgatgcat	agcgtaggca	gtattccgca	taatagttaa	1140
atcgacgtac	ctctgaacta	tgcagactac	tactttcttg	aagccctgaa	gcgtagaaaa	1200
gatttagata	aataa					1215

&lt;210&gt; 4745

&lt;211&gt; 1425

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1175)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4745

ttgcttgact	ttcggaaatt	cgatcagaac	tatatccaat	taaaactatc	ggaacaaagt	60
ctgaatacat	ttttagaaga	agtctatctt	tctttttctg	cttatgcctc	tcagaagtcc	120
atttcttacc	atctgaagct	gttggagcag	gatatatcta	tttggataga	tgactggcaa	180
atgcgaaaag	ttttgtttta	tttgcttttcg	aacgcattta	aacatgttcc	ggataaagga	240
gaaataagca	tattaacctc	taccacaccg	gatcagggtg	ttattgcagt	taaggattcc	300
gggaatggca	ttagtaaaaga	agaacaggaa	cggatatttg	atcgttttta	tcaggcggac	360
aatcggaata	aagcgattca	tgttggcact	ggtatcggac	ttgcattaac	gaaaagtatc	420
attcagctac	atcatggtac	aattgaggta	gaaagtgagt	taaatgaagg	aagctgtttt	480
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gaatctccgg	aaaaggaacc	tatggtacaa	gagaatacca	taccggatga	gaattttatg	600
aaaaaggatg	attctacatt	cgaaactccc	ttgatagatg	aacgggaagg	gaaacggaaa	660
gtattattgg	tagaagataa	tgtggagcct	ttgcaggtag	tcaaagaaat	attttcatca	720
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atagataaag	gtttcttgga	tagagttagt	aagggtgtag	ataaacatat	tgataatgag	1140
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aatttttaaag	cattgacagg	gatgacaccc	aatgaattta	ttctaaatca	ccggttgaaa	1260
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ccgatggaat	atcgcaaagg	agctaaacag	gaaaatctta	aatga		1425

&lt;210&gt; 4746

&lt;211&gt; 1113

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4746

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gaatccatta	catccgaagc	tgctcggttg	ctgaaatctc	ttatcagcat	cccttcgctc	120
agccgcgaag	aagaaaaagc	agccgactat	ctgcaaaatt	atatcgaggc	cgaaggcatg	180
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ccgacaatcc	tgctcaactc	ccatattgac	actgtaaagc	cgggtcaacgg	ttggcggaaa	300
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cgttcgcata	cggccgatga	atatatcatg	attaaagaaa	tagaagaggc	attggaattg	1080
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<210> 4747  
 <211> 513  
 <212> DNA  
 <213> B.fragilis

<400> 4747  
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 gaatttggca ttgtcgatga tgaagacgaa gaaaaaaaga cccctgctta tgtagatagg 120  
 aatcaaccgg ataaatgggt tgctgtggta aagaaccaa cgaatcaatc tatcaacttt 180  
 acagcagtcg ataattgcgt agagatgaat cgaagtgcag gaacaatgga ctttcgttgt 240  
 gatgccatgt taaccaatga tgacaatatt gttttcgttg aactgaaagt acaagcagcc 300  
 gattggatct ttcattgcgt ggacgaacaa ttacaaacta ccattgatca tttcaaggct 360  
 aaccacgatt tatcgagata taaatataag cgtgcatttg tatgtaataa aaggcatcct 420  
 aacttttaggg tcagctataa ggacaaaatg acatcatttt cgatgaaaaa cggatttcgt 480  
 ttgaatctgg ttagagaaat tatttttaag taa 513

<210> 4748  
 <211> 897  
 <212> DNA  
 <213> B.fragilis

<400> 4748  
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 ctccataaca ctttttttct tttttctact gcacttctcc cactttttcc acattataac 120  
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 cttttccatc ttgtcctttt ctaccctgtc ctttttcttt ccttaccttc tccttcttct 600  
 ccctctctta ttcttccact ctattccctt ctgctctgtc cccctcctcc tccttctctc 660  
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 cctccttttt cttctctcct aactttcccc tccctttccc ctttcttctt tctccatctt 780  
 ttctctctat tctctccctt tccacttctt ttttgttatc tccctcttc tttccccctc 840  
 tcttctttcc catataatta ctctctcttt cttctctctc actctccact atctttc 897

<210> 4749  
 <211> 210  
 <212> DNA  
 <213> B.fragilis

<400> 4749  
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 tcgtactttt ctttctccgg atcaactagg acggtagaag tgagaaatgg ctggtttctt 180  
 tggcgaagaa ccgctctttt gagtcggtag 210

<210> 4750  
 <211> 1218  
 <212> DNA  
 <213> B.fragilis

<400> 4750  
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 attgtcttgc ccgatctgac tgcaggaagt actgaggag ttatcgactt tgccggagta 120  
 acttccggca tgctgactca cgatggagga caggatacgg ataataataat agccgttcgg 180



gtaaaagcaa	atgaccgttg	gagtgatgcc	ggtatgtata	ccatccggac	tgtgaaacct	240
gtcttttaaag	tgggttatta	tccgggcaat	gtttggacga	aagagtttac	tttgaacaca	300
ctcactgccg	atagcgtgaa	aaccggcaat	ttagataagt	ttaccgatat	tgcttacgaa	360
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gtggagggtga	aaacgtatga	ggcgctatcc	atacccaatt	ctgattttta	tgctggatat	540
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accataattg	gcaaagctta	tttgaaatcc	ggtactgcat	attcatccta	tcaaactcaa	1020
accttgaatt	ttgagtataa	taatgaacat	agaaacttac	cgatctctca	tgtgaagatt	1080
atattttaagg	ccggtactaa	agaagatcgt	gatcacttgg	aagataagtt	tagggatgca	1140
aaagttccat	atggtgatgc	ttatatcata	ggttcacagt	tctggctcga	ttcattcact	1200
ttacattacg	acaaataa					1218

&lt;210&gt; 4751

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4751

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tcggatgaat	ttatggcaaa	ctttacagac	ttctccgtta	ccgtaagtag	tcctacagga	540
cgtcaggcaa	gcctggcagg	taatgtgaca	gaccttttat	attttaatgt	cccgaccggt	600
ggaaccattt	taagttatac	gcttaccgcc	accaatgccg	atggagaaac	aatgacttcc	660
gaagcgcgtt	ccatccttca	ggaatcggga	gcggaactta	cttcgggaaa	ttataaagtc	720
cggatcggcc	tggttcagta	a				741

&lt;210&gt; 4752

&lt;211&gt; 600

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4752

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tgttcaaaaa	gcaaaaagaa	catggaaaca	gaagaagaaa	tacagaatgt	aaatgtccat	180
cacggacata	acataaggcg	cacccggatc	gagaaaaaca	tcaagcagga	cgcattggca	240
gcaactcgtaa	acatgacaca	accgaatgta	tccaaatagc	agaagatcgc	ggtgattgag	300
gatgaaatgc	taaatagatt	cgcaagggca	ctgaatgtgc	cggtagaata	tctgaaaacg	360
ctggaagagg	atgcaccttc	tgtagtattt	gagaatatca	caaataatgt	gcatgacaat	420
aaagacagct	cagtgcccat	tacgggttat	aaaggacaag	atgccaccac	caacagcttt	480
aatccgattg	ataaaatcac	cgaactctac	gagcgtcttc	tcgaagagaa	agatgaaaaa	540
tatgccgcgc	ttgaaaaacg	gattcaaggt	ctggaacagc	aaaataacag	cggaaagtaa	600

&lt;210&gt; 4753

&lt;211&gt; 258

&lt;212&gt; DNA

<213> B.fragilis

<400> 4753

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cttacttggt	ttgaggtaaa	tgcttacttg	ttttccggaa	aagcaaggct	ctaccgactc	120
aaaagagcgg	ttcttcgcca	aagaaaccag	ccattttctca	cttctaccgt	cctagttgat	180
ccggagaaaag	aaaagtacga	gtctgtaaaa	agaagaattt	tattgctttt	tatctgtatt	240
acagcagaaa	cgatataa					258

<210> 4754

<211> 735

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (81), (211), (277), (388), (511), (522), (601), (607)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4754

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ctgggaggca	gtaaggctac	catcactccc	gatccgtcca	ctgtaaccaa	tttcaggaga	180
ccgcaagagt	ttgttgtcaa	ccgtttcgat	naagaagagc	tatggacggg	cgatgtggta	240
cgtaccacat	cgacaggtag	cacgggaagt	gccgatntgt	gggctacaag	agccacattg	300
aacgggggta	tgaagcaagg	aaccactccc	cgtgtggaat	acaggaagaa	gtcgggaagt	360
acctggaccg	ttgtaccgga	aacagatntg	aaactggaaa	gtgggtacaac	tttcagtacg	420
acacttaccg	gattgcaaga	tggtaccgat	tacgtttggc	gggtagtggt	cgaggaagtt	480
cctagtagcg	aatctggatt	tactaccgaa	nagatacagg	anatacctaa	cttaaacttc	540
gatacctggt	cgcagaatcc	cacaggaacc	tttaagaaga	gttgggtatcc	taatgccgat	600
ngctcanatt	ctttctgggc	aaccggaaat	gatggagtga	cctcttcact	ggcggggcagc	660
cgtgattcga	gtacccgccc	cggaagaaaa	gagcgttgtg	aacggaaagg	cggcttatat	720
ggtcacttta	tgtag					735

<210> 4755

<211> 552

<212> DNA

<213> B.fragilis

<400> 4755

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ggcaatctgt	ttatcgggtga	ttataaaaacg	aatgcccaaa	gtcccaagga	tagccccaag	180
tttggaagtt	cgtttacggg	ggcacgtccc	accggattga	aggggtggta	taaatatact	240
tctaaaccgg	tggattatgt	cggtaatccg	gataatctga	aaaatgatga	atgccatatt	300
tatctccgtc	tgtgggacga	taaagataac	gagatcggtt	acggagagtt	catcggaaaa	360
gagacgggtga	cccaatatac	tcagttccgg	ttcgatgtga	cttataccaa	taaaacggcg	420
aagcctgcc	agataacgat	tggtgccact	tcgagccatt	atggcggtga	ctttaccggg	480
atgaaggtga	ccggttcggg	aggtgtaggc	agtgaactgt	gggtcgatga	atgtgaatta	540
ttgtatgaat	aa					552

<210> 4756

<211> 990

<212> DNA

<213> B.fragilis

<400> 4756

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ctgtcgtgtc	aggaagaaat	agaaacgatg	cctaacggca	gtttgaatat	cgtattgacg	120

gatgaagcgg	cggttaccgg	gactttgccg	gaggctttgt	cagatgaatt	gcggcaacag	180
ttcacgattg	agttgctgcg	tgacagagaa	gggacaatcg	tgcccgaata	caaaggtgca	240
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attgccatcg	agaagggtaa	agcaacgacg	gttactgtcg	gctgtaagg	agccaatg	420
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gtggaagtca	gcgcaggggg	ggagtgcgtt	acttggaac	cgggagacgc	cacacatccc	540
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caggagggaa	gttatgcttt	gaatccgatc	gagacagtga	aagcgggtgt	taagtataat	660
tataagctct	ccatgaaggc	ttccaatgta	agtctagagg	tactacgga	aactcaacag	720
gaacctatta	ctatcaacga	aaccgtaccc	gacagctgg	tgccgaaggc	taaggatttt	780
agtgaggatt	tccgatgaaa	tcatgtgttg	acttataacc	agacggcaga	tgctttgtcg	840
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tttgcgata	agcatttgga	acatctgaat	aagacgtatc	tgctgtcgga	actttccgaa	960
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&lt;210&gt; 4757

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4757

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gaaaatgtta	taatgtggaa	aagggtggag	aagtgcagta	gaaaaaagaa	aaaaggtgtt	120
atggagagga	aaggggcagt	gattatgaag	ggagtgaaaa	gagatacaaa	aagaagtagg	180
aagaagttaa	aagggtga					198

&lt;210&gt; 4758

&lt;211&gt; 402

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4758

ggaatacgt	tatgcttgca	gaatcaactg	ttttacgctt	attttacagc	tattgaaata	60
acaacaatac	tattacacac	tatgatcgga	ctactgacaa	ctaaagaact	tgatttcctc	120
accaaactgg	ctgaactttt	aaaagaatac	agtgccataa	tatcttacgg	tcattgtagc	180
gaactgcgt	ttcttgcttg	tgctggtgac	agcgaagatg	tggaataata	tcccattata	240
tttgaggaca	gctttgatga	aaatgagatt	tatgatctgt	tgcgcaaaaa	cagaaaacgg	300
atcgaggaga	ttatcgaacg	tgaggtagct	gaggctgttc	ccgaaggaga	actatctcag	360
cgggacgatc	aggccggatc	aatggcagac	cattttcact	aa		402

&lt;210&gt; 4759

&lt;211&gt; 1269

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4759

tgtatttttg	tagtatattt	gaatgtaa	atcaataggg	gtttatttat	gaatgaaaca	60
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tatacggttt	tgataggaaa	acagggatcg	ggaaaaagta	ccattgcca	attatactcc	180
atgtttacgt	ggttggagaa	ggggctggca	cgccgtatca	ccagtga	atacattacc	240
caatattcac	gattccagaa	aatatattgt	gcctatcacc	gtttggaatc	atactttaag	300
agagaaacgg	ttatccgttt	ttatggatta	cattataact	tcttctatga	aatgaaaag	360
tttcatgtcg	aagccaaagg	acttccggag	tcttataagg	tagcgaagg	aatgtatgtt	420
ccagctgaac	gaaatttttt	gagtacagcc	gatgatacgg	atggattgaa	aagtctgccg	480
gaatctttag	aaaccctgct	tgaagagttt	gataaggcta	aggaggcatt	caaaaccgga	540
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attaaaggca	gcgattacaa	gattcgtttg	tccgcagctt	ccagtgggta	tcagtctgtt	660
ttacctcttt	ctttaattac	cagattccta	tccgacctag	tgctggacaa	tgccaataaa	720

gaggacctga	gcattaaaga	gaagaagcag	attgaaaagg	aagtgaataa	agttatgaat	780
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aaatatctct	gctttgtgaa	cattgtttgaa	gagatggaac	tgaatctcta	tccggagatca	900
cagcgaagtg	tacttttcga	tttattaagt	tatgccaaata	agatagagtt	gaaccgcctt	960
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cctgctggaca	gtacgataga	tccggcgcgga	ctccggattt	acgaactgaa	agacggagga	1140
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ttggggagtga	ctaatagaatt	gttcgatcag	ttacttgaaa	tagaacaaga	gtttgattat	1260
aaaaactaa						1269

&lt;210&gt; 4760

&lt;211&gt; 2046

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4760

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caacatcagg	gatatccggt	gactatggag	aagaaccccg	atggtacttg	gaccgaggga	120
gccgtatata	tccgatgggc	aggttttcta	gaaggaaact	cctggcaaaa	ggacaataaa	180
ctggatgtac	gcaatacgac	gaccttaacg	tatacaccta	taaaacagca	attgatcttc	240
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aattactata	cgggaccgga	aataatggga	actcgttaata	cattcagttc	tctggaaaat	360
atggattata	acaggggaata	tatatcaagc	aataattactg	gtaactatat	tcctaaatct	420
tctaattccg	atcattacct	aaatgtactg	ttgggctgga	atcttgagca	ccaggattat	480
aaaacgatac	aaacttatcg	ccgtggtctg	attagtgccca	ctaagccgag	ttttgctctt	540
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aaggtccgtg	cttccgtcgg	tagcctaggg	aacggtaatg	taagtcctta	cctctatctt	840
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gggctgggatg	ttgatatgct	gtctaaccgt	ttgtcgatgg	tgttcgacta	ctatcaacgc	1020
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aacactgatg	cttattggcc	ccgctaccgc	ggctatctgg	cgaatgggtc	tacaaaggcg	1740
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cttcagatag	attatacttt	taataagaag	ttttgcgata	aactgcactt	gcaggatttg	1860
aagattttacc	ttgctgggtga	gaatctgttg	acatggacac	cgctgaacaa	gcataccaaa	1920
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gatggagacg	gatatgggtta	tcctattttg	agcagttata	caatcggtat	taatgtaacc	2040
ttttaa						2046

&lt;210&gt; 4761

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

<221> unsure

<222> (140), (188)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4761

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cgcctcgcca	cccttgattn	tgtgcataaa	ggacagaacc	tttttatcac	aggttcttca	180
ggaacgngga	aaagctatct	ggcttgtgcg	cttgggtcag	aggcatgcaa	gaagggattc	240
cgcactttat	atgccaatgc	cccaaaaactg	cttggcgcac	tgaaagtggc	caaggtcaaa	300
ggtacacagg	aaacagaact	caagaagatc	gagcgtgtc	agttgctcat	tcttgacgac	360
ttgttccttg	tacctcttga	tgccaaggaa	cgtcccatac	tgctcgaaat	tattgaagac	420
aggcatgaac	gaaaatccat	catcataact	tgcagtatc	catcgttcaa	ttggtatgac	480
atggtagggtg	acccgacaat	agcagatgcc	atccttgacc	gcattcattca	cacggctcat	540
accatagaat	tatacgggtga	aagcatgcgt	tag			573

<210> 4762

<211> 267

<212> DNA

<213> B.fragilis

<400> 4762

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ttggctctga	cctcttgtga	tagttttttg	aattgtgagc	ccgagaacag	tttttcttcc	120
gaaggctttc	tggagtcgca	atcggtttta	cggctttata	caaattgggtt	tttacaaggt	180
ttcctgcca	gcgaagaaac	aatagcttgg	ggtggcgacc	agtatgcgtc	ttcaccacgg	240
ggctggaagg	atcagcgcg	tgcaaaa				267

<210> 4763

<211> 393

<212> DNA

<213> B.fragilis

<400> 4763

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ttgggtagaa	gccattatgt	gaacggtaag	ttcatagcaa	gtaacctggg	tatcatactt	120
acaccgacaa	ataatcccga	ataccccata	aacgtgcggg	tctatagcat	gtattcaaat	180
gccataagaa	agcagattgt	taacgagctt	gcgaacggaa	catccaagct	caccattccg	240
gtaaatgacc	tgatgaacta	ttatgtggag	tattttcaca	taagcaaaca	gaacgggctg	300
gttgaatatt	gcaataaggc	gattgttact	ttacaacaga	aattggataa	agaaaaagat	360
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<210> 4764

<211> 624

<212> DNA

<213> B.fragilis

<400> 4764

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tgcaaaaaaa	aggaatttgc	cgacactttt	gaagcaaaca	tccggaaact	tcattggagat	120
tacaggctga	ctgatatcca	ttggcccggc	ctggcagttg	acctgaacca	tgacggtata	180
gggactggg	cgctattata	tgaattccag	aataagatcg	gctattatga	gcctgactat	240
accgccagcg	tatctgacgg	catggtattt	tctcacgatg	aaacctgggc	aaggcctgca	300
accgcattca	atctgaccat	tccatgtccg	cgttatattg	tctcagaggg	gaaatgggta	360
tgctcaggaa	tccatggcat	ccaggttact	ttgcgtgctg	atgtggattc	cttcagtctg	420
cagtcaaat	gcagcaggat	atttcccgc	tacaatgacc	gggatgacgt	tttctgggc	480
aacatcaaag	atatcagcct	ggttgctctg	tcatatgatg	ccgcgtcatt	cagaatcggc	540
gtgcattgca	cactccctta	cgaccgtcct	gacggaacac	aggagctgaa	cgagaattat	600
ttgtattacg	agtattcaag	gtag				624

<210> 4765  
 <211> 240  
 <212> DNA  
 <213> B.fragilis

<400> 4765  
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 gaaagctttt tgacatcctc caaatcccc atactggatt tctgcaaatg gatggaggaa 120  
 catcccggaa caggcaatcc tttcaagggg accggccgct ctgcaattac cgcacggatg 180  
 aattacaact cctcatatac cgatatcatg ctttacaaca atatggcttg tactgcctga 240

<210> 4766  
 <211> 279  
 <212> DNA  
 <213> B.fragilis

<400> 4766  
 aaagacaata tgacagaaca ggaagtcaga agatatctac ggaaaaatgag cgagcaggac 60  
 tcccagtctg ctttccgaga attctatgat atgacgtacg accgcctgtt ccgcattgct 120  
 tactactata cccatcacga agaatggcca caaaagatcg tactcgatgt tttcatgaaa 180  
 ctttgggaaac tggaaaagcc actttacttt gccctttttg ggcaaatagg atttaccacc 240  
 cttggccgcg atatgattga ccctttaaaa tcttggtga 279

<210> 4767  
 <211> 471  
 <212> DNA  
 <213> B.fragilis

<400> 4767  
 agacagaaga tggatcgtt agtaatggtt tgcagtggac cgatggctgg tatacagctt 60  
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 gactggtata atgaattggg aagacgcgat gccgatcctt cactggataa agtgcgtgtc 180  
 aatgataagg gggaaatatga atactttggt aatactaact ggctggatat catttataaa 240  
 gatcagaact attccactga acataatgtc agcattagtg ggggaaatga acgtgcccg 300  
 tattatgtgt caggacgtta ctacaatcag gatggcattt acaatgcccg agacgaaaag 360  
 tatacgcagt ataatatccg ttcaaaagga gaaatacaaa tcaataaatc tcttttgttg 420  
 gagaataata cggaatgtca tgattttccg ttccccacca gcctatggtg a 471

<210> 4768  
 <211> 900  
 <212> DNA  
 <213> B.fragilis

<400> 4768  
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 gtgaaaagat gttttttaga atggagtttg gtaagcaggc gttttgccgt tgcccttacc 120  
 tttgtattag agggagggat gttgcttgct gctaatactaa ttccagtga aggtgtagta 180  
 aaagacacct caggagaacc gctggccggc gttacggtga gaatcaaaga cggaaagtcg 240  
 ggaacaatca ctgatgtgaa cgggtatctt gtcttggtat tagaaaaagg aaaaaaactg 300  
 ttgttgagct atatcggata ttcagaaaca gaagtactgg taaaagatga tcagcaaatg 360  
 cagatcgtac ttaaggaaga tgtgcaacag ttgcaggaag tgggtggtcgt aggttacgg 420  
 acggcaaaga aagtaaattt ggtgggtgct gtggaccaga ttgatagcaa gcggattgca 480  
 gagcgcagca acagtaacat ttcccgttcg ttgcaaggca tggtaaccgg actgaacatt 540  
 acattcagtg acggtaaacc ttccgcgtac ccatacatca atcttcgtgg aacaggaagt 600  
 attggtgcgg gtggtagtgc ccttgtgttg ataaacggag tggagggtga tctcaactcg 660  
 gtgaatccag cggatgtgga aagtgtatct gtattgaagg acgcttcttc tgctgctatc 720  
 tatggtgcac gtggtgcttt ctgcgtgata ttggttaacta ctaagaacgc tactgccgga 780  
 aagacgaaaa tcaattataa cggaagtttc tccatgcac agcgtacggt gaagacagaa 840

gatggtatcg ttagtaatgg tttgcagtgg accgatggct ggtatacagc ttattttgtaa 900

<210> 4769

<211> 1803

<212> DNA

<213> B.fragilis

<400> 4769

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gcagaggcaa	gagtgggtgt	gaacatgaat	accggttggg	cttttcacgc	gggagaagtt	120
gaaagcgggtg	ggcagccccg	tttggatgat	tccggttggg	tagcagctac	catccctcat	180
attatgcaat	tagagaagaa	gcatttgtga	ggagatatta	tttatgatgg	agtcgggtgg	240
tatcgacgta	ctttcagagt	accgtcacaa	tacaaagaca	aacaaataaa	aatttcgttt	300
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ggagggttatg	tccggttttgt	aacagatatt	actactcgga	taaactggga	cggggacaat	420
ctgctggcag	ttcgggtttc	tgccgaatat	gatccactta	cacctcctgg	aaaaccacag	480
gcagggtatgg	acttctatta	ctatagcggg	atttatagag	atgtggaaat	ggttatcagt	540
gatccgttac	atatcactca	tgcttttagaa	gaggaagagg	tagctggagg	aggcatcttt	600
gttacttatac	cggtagtcgg	aaaagaaaaa	gccgtgacct	atgttaaggc	tcatgtcaga	660
aacgaaggga	aacgaaagag	gaaagcccaa	cttcgtacgc	aattgataga	taagagtggg	720
aaaatagtgg	cctgtcaatt	gactcctttt	cgggtgtcag	cgggtgaggc	cattcatctg	780
gagcaaaatc	tggaaatagt	acatccatcg	ttatggcatc	cctatgatcc	aaacttgtat	840
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ggtatacgtta	ctattgctta	taccgcgcac	ggaggtttct	atattaatgg	cgaatcactt	960
tatctgcgtg	gagccaatcg	ccatcaagca	tttgcacata	taggagatgc	agctgctaata	1020
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ttgaaacagt	gcagagggcg	ttttttgcaa	cttaacgggc	atggatattt	cgactggtgc	1620
atgcttgatg	ctaattcccag	aatgggagga	cattttttgt	ggagttataa	tgattatgca	1680
cgtggagcag	atcatgaaac	catgttttgt	gggtagtctg	atataaacag	aattcccagg	1740
tgcagggtact	atatgatgca	gagcattttt	cgtcaagaaa	tatccctccc	cgcgaatata	1800
ttaa						1803

<210> 4770

<211> 1125

<212> DNA

<213> B.fragilis

<400> 4770

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tttgataatt	tttatcgggg	caaacgtgtc	cttgtcaccg	gtcatacggg	ttttaaaggt	120
agctggctct	ccatctgggt	gcattgaattg	ggggccgagg	tgattgggtg	ggctcaagac	180
ccttttacgg	ctcgagacaa	tttcgtactt	tccggtatcg	gcgagaaaaat	taaggccgac	240
cttcgtgccg	atatccgcga	tgggtgagcgt	ataaaggcta	tctttcagga	atatcaacct	300
gagattgttt	ttcatcttgc	tgcaccaacct	ctggttcgct	tgagttatga	catccctggt	360
gaaacctacg	aaaccaatgt	aatgggaaca	atccatgttc	ttgaggcagt	ccgttctacg	420
gatagcgtga	aggtaggtgt	gatgattacc	acagataaat	gttacgagaa	taaggagcaa	480
atctggggct	atcgtgaaaa	cgagcctatg	ggcgggttatg	acccttattc	cagtagcaag	540
tgagccgctg	agattgctat	tgcttcattg	cgctgctctt	tctttcaccg	cgagcaatac	600
gataaacacg	gaaaatccat	cgccagtgtg	acgttatggta	acgttatcgg	tggtggagac	660
tgggcttttag	accgtatcat	tccggactgc	atcaaggctt	tggaaatcggg	acggacaatc	720
gatataccga	gcccgaaggc	tgtccgtccc	tggcagcatg	tgcttgaacc	gttgagcggg	780

tatatgctgc	tgcacaaaa	gatgtggagt	gatacctacga	gatactgtga	aggctggaac	840
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aattacgggt	ccggtgaact	tcgtgacctt	tctgatccgc	atgctgtgca	tgaagcgaag	960
ttgttgatgc	tggatatttc	gaaggcaaaa	ttccgtttag	gttgggaacc	gaagatgaat	1020
attgagcaga	cggttgagtt	gacgggtggac	tgggtataaaa	gataccggga	agaagaggta	1080
tatgatgttt	gtgttgaaca	gatagttaat	tttatacaga	aataa		1125

&lt;210&gt; 4771

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4771

ttatttataaa	caataactat	gaagtatttg	ataaccggcg	gatgcgggtt	tatagggagc	60
aatcttgacg	ccgaggtgct	gaagagaggt	gaagaactct	ttgtcttgga	caatttattt	120
cgttatggga	gtggttccaa	tcttgagtgg	ttacgtacga	aagggtgactt	tacatattat	180
ccttatgaca	cccgaatac	caacgatgtc	gaaacggtaa	taaaggaggt	acagccggat	240
tatatttttc	atttggcggg	tcagggttgcg	atgaccacct	ccatctccaa	tccccggttg	300
gactacgaaa	caaacgcttt	ggggacattc	aattttactgg	atgctgtccg	taagtattct	360
ccggattctg	tgatcctgta	ttcttcgacg	aataagggtt	acggtgattt	tgagtatttg	420
catttcaggg	aagagtctac	ccgttatgtt	tgcgaagaat	accctaattg	ctttcctgaa	480
tcgatttctt	tggattttca	ctctccttac	ggttgttcaa	agggttgtgc	cgaccaatac	540
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attgacaaaag	cttatggcga	ggtgtttaat	attggagggtg	gtatagaaaa	cagtctttct	840
ttgtcttcac	cacggggctg	caatgagcgc	tgccattggg	gaatgggggg	tcga	894

&lt;210&gt; 4772

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4772

ttaattttat	acagaaataa	gatggaaaca	gtatttctga	ttggaggggag	tggctttatc	60
ggcaagaacc	tggcacaata	cctgtctcaa	aaatatcatg	tgcattgtatt	tgataagtat	120
atcgatcagc	ccttctttac	atcttatccc	tccattgaaa	caacggaaact	ggattttgga	180
agtcaacgga	ttccacagga	tatgccatca	cctgattata	tcataaatct	tgcttcgggtg	240
gtgacagcgg	agcggaaacat	gtccttggtt	gatgaactga	tttcgtccaa	cttgaagatt	300
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ggcagttctg	aagagtattg	ttctgaacaa	tccccctttc	gggaggaaga	ccgtgagtgc	420
cctaactctc	cgtatgcctt	gggtcaagcaa	ttgacaacca	atacctccat	gatgctgtat	480
cgggaattatg	gctttccgat	aatggttgtc	cgccccggta	atgtgtttgg	cccgtctcag	540
aataaggata	aattcatccc	ctatgttgtc	ggacaactga	gatccgggct	tcctttgaat	600
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actgattatt	taaaacaata	a				921

&lt;210&gt; 4773

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure



<222> (33), (71)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4773

gagacaaaat attcattcgg cgggggtgcc acngtcacct cttttcatat cgcaagcgg	60
cgggggcaaa naaagacata tctgtggggg cgatttcgac cacaagacat tacattcgat	120
ccgatacggg gagaccaaca attagcatac cccccgatcc gttttattgg gacgcgtacc	180
tctgatacaa ccccgggcga caaaaaggca catcatacgc gtcgagtcaa tgcaacaatc	240
gagttacttg atcgagctta g	261

<210> 4774

<211> 246

<212> DNA

<213> B.fragilis

<400> 4774

gtcagcagga aacgttcggt cccgagatat ttctgtacac gccggatacg cccgcccgtt	60
tgggtgttca gcccggtatc aaccatcgag actttccagc actcggaatg gttgttcaca	120
atgggtggtcg tattgctgga aaggcacacc gccatttcgg tgttattgcg gaaaaaagtt	180
ggcgaaacac tccttgatga aaaatggggg ctggccgcga cattctccaa aagggggggg	240
tgggtga	246

<210> 4775

<211> 210

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (56)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4775

cccactttct tttttggagc gggctggata accgaagaaa gacgaggggt gggacncacc	60
gccgatgtaa taaacaatcg ctctttgatt tttttcccgga tcgatggaat gttgtattgg	120
atttcgggaa tctgcctccc gtcccatcc aagagagaga ttgggggttt tgttgctaag	180
ctcgatcaag taactcgatt gttgcattga	210

<210> 4776

<211> 858

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (11), (50)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4776

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aatatgtggt ggtgggttat aaaaaccacc aaaaagtitt ctttcggtga aaacaccttc	180
tcgtgctcac attttttcaa aaaagcaatt caccaccccc cccttttggga gaatgtcgcg	240
gccagacccc atttttcatc aaggagtgtt tcgccaactt ttttcgcaa taacaccgaa	300
atggcggtgt gcctttccag caatacgacc accattgtga acaaccattc cgagtgtggt	360
aaagtctcga tggttgatac cgggctgaac acccaaacgg gcgggcgtat ccggcgtgta	420
cagaaatatc tcgggaacga acgtttcctg ctgacctatg gtgacggtgt caccgacctg	480
aacatcggtg ataccctgaa ggctcacgag tcttcggact gcctcctttc ccttacggcc	540
tacaaacccg gtggtaagtt cggcgccctg cagctcgatc tcgatacgga caaggtcctc	600

tctttccagg	agaagcccga	cggggaccgt	aactggatca	atgcgggcta	ttttgtgtgt	660
gaacccgaag	tgttcgatta	tatccctgag	ggtgactcca	ccatctttga	gcggcaaccc	720
ctcgagtcta	tagccaaggc	gggcccgatg	catgctttcc	gtcatacggg	tttctggaaa	780
ccgatggata	ctctgagaga	caatacagaa	ttgaatgaaa	tgtgggatca	gggagtcgct	840
ccctggaaa	tgtggttaa					858

&lt;210&gt; 4777

&lt;211&gt; 2538

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1253), (1893)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4777

tgcagacagc	caatccgctt	tgcacaatta	atccgtcggg	tatcgaatct	attgagatct	60
ttgaaagatg	cctctgccac	agccatctat	ggatcgcggtg	gcgcaaatgg	tgtggtattg	120
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atatcgaaa	tagtgaagaa	attggatatg	ttggatggat	atgcatatgc	gatgtatagg	240
aatgaagcag	cgcagatggt	taatgaatac	gagaatgcga	atgaagcaat	tccatatccg	300
ggtacttcca	aagtagatcc	cagtaccggt	gaatctgttt	attctcctgg	accggaggac	360
tatcggaatg	gtacatatcc	tagcgtaaat	tggcaggatg	aagtatttga	aacagcattt	420
tcccaggaat	acaatctgag	cgtgaacggt	tccaatgata	aaggatatta	tgcaatctcc	480
ggtaatat	ttggatcagag	tgggtatcatt	cataactccg	gatacaaacg	ttattcattc	540
cgtgcgaact	tggctcgtaa	agtacatgaa	tggattgaaa	taggtacgaa	tatgagtttt	600
accaattcgc	tgaataaaact	tgctaaaacg	aattctgtca	gtgacgggat	tattcgtggt	660
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ggtaataaat	ggtcgaactt	tgcttcaggg	gctattgcct	ggagagcatc	agaagaacag	1320
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gacctgaagt	gggaaactac	cagccagtat	aatgtaggag	tggatatggg	tttcttccag	1560
aatagaatta	atctgactat	tgatctgtat	tataagaaaa	catctgattt	gttacagaat	1620
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gatccgttct	atgcgaaaga	gtcggaggct	gtatgtaaag	caatggtagg	tgaggtaaaa	1980
tataaggatt	ttgatgggg	agccggtatt	acgaatgccg	atcgtcagggt	aattgggtgaa	2040
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ttacaatgta cattctga

2538

&lt;210&gt; 4778

&lt;211&gt; 795

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (21), (40), (45)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4778

atgacgcccc	tgcaccccct	nccaatgata	ccatggaacn	tgcanaacat	gatgatgctt	60
ctgatggcac	tcttaatgag	tggccatatg	atggctcagc	aaaccattgt	tacagggtga	120
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aatgtattgg	tcttttcgtg	tgtaggttat	aaagaacatg	agatcacttt	aaaaccggga	300
caaaaagtgc	tcaatgtgat	catgaaagag	gatactgaac	tactggatga	agtagtagtt	360
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accagtatgt	gaatgccggg	aacaggcaaa	gacggtatga	tgcagacagc	caatccgctt	660
tcgacaatta	atccgtcgga	tatcgaatct	attgagatct	ttgaaagatg	cctctgccac	720
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aaaaggaaaa	gataa					795

&lt;210&gt; 4779

&lt;211&gt; 1260

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4779

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acagatgacg	acattctctg	cccggccggc	cttcttcaat	tgcgcatagg	cataaaaaata	660
atagaatgcc	tgcggcagga	aacgtgccac	gttgatagag	ttagccgagg	tcagcaacaa	720
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&lt;210&gt; 4780

&lt;211&gt; 813

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4780

gtggctactc	cgcctaccgt	aacttcatca	agcaactctt	cacgtttttac	tcccatcaca	60
tccatcgaca	tttggcaagc	aataaaactcc	accccgttct	ccagagcctg	ctgccgcagg	120
gattccagtg	agtcgatgcc	tttccggtgc	atgatgtatc	gcatcatctt	tccaccata	180
cctcccatgc	tcatttttaga	aagtttcagt	ttcagcgaac	tggatgggag	cattgtacca	240
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aggacgaaag	tggcaagtgc	cttgtccaag	tcgtcactga	acataatcag	agttttacct	420
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&lt;210&gt; 4781

&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4781

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tccaaaacct	ttagcggatt	gaacatgaat	gcgttgaaat	atctgcttcc	cgtatgggtc	120
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tcgtaa						966

&lt;210&gt; 4782

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4782

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cgtccgctac	gaattgttat	cctcaacctg	atgccgttga	agattacgac	agaaacagac	180
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gattttgagg	aacgaacta	ttgggatgaa	ataaccggaga	tattcgactg	ggcacgtacc	420
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catacggaag	tgcgaaagga	agatatactg	aaagtaccgg	aattgacatt	actttccgag	660

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&lt;210&gt; 4783

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4783

tcgctgaata	ccaaccccat	tccttgttgt	gcttttatag	aagacagtat	tttttctacc	60
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attaaattaa	ttattttttat	agttttataa	aaggcctttc	tatataagct	aacacaccat	240
cgaaaagaag	gtatgagtgc	tattttttatt	tttctgcaaa	aaaagatgca	gggaaatgat	300
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&lt;210&gt; 4784

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4784

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tttgggtatta	ctttaaagcc	atga				444

&lt;210&gt; 4785

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4785

aatcttaaaa	caataacggt	tatggagaaa	tatcttattc	acagtaatga	gctgcacctg	60
atcgatcaag	aaagaatcca	ccaggcagta	gagcagatgg	tagagtcatt	ggatatggcc	120
gccgatccta	cattcagttt	tgacctttac	aaagtgggtg	aaacctattt	caaggatctg	180
gataaacgga	gagagataaa	ccatctgtta	ggcatcacag	acaacacgta	tgatcctaca	240
gaagatttcg	gagtgtgtta	a				261

&lt;210&gt; 4786

&lt;211&gt; 1929

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4786

ttgcatgaaa	ctattaagat	gctacgcata	aaaagattag	atattttttat	aataaagagt	60
tttttattac	tccttgtcgg	tacatttttc	atctgcctct	tcattcttcat	gatgcagttt	120
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aagatataa						1929

&lt;210&gt; 4787

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4787

tggttttctg	ctacaacgca	aatgatcgga	ctgctgaaaa	ataaaattcc	gaatggcatg	60
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gctcagaagc	ggtttttaac	gggtaaggaa	tcactctgaac	aggcaagtgc	caccttttca	180
ttttga						186

&lt;210&gt; 4788

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4788

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tgcgcagatg	tatgtccttc	tgaagcaatt	caccagctg	aataa		225

&lt;210&gt; 4789

&lt;211&gt; 204

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4789

aacatagaag	ctgacatctt	atthttcata	actttattat	cctgctattc	ttataaactt	60
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ctctcgggaa	taaacttttt	ttga				204

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 <211> 1296  
 <212> DNA  
 <213> B.fragilis

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 gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt 420  
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<210> 4791  
 <211> 2604  
 <212> DNA  
 <213> B.fragilis

<400> 4791  
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 aaagggcctt taagaatatt taatttcaag tatgaaccgg atatctatac acaagagata 180  
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&lt;211&gt; 651

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4792

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&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4793

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&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4794

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&lt;210&gt; 4795

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4795

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&lt;210&gt; 4796

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4796

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4797

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&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4798

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&lt;210&gt; 4799

&lt;211&gt; 1248

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4799

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&lt;210&gt; 4800

&lt;211&gt; 2064

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4800

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&lt;211&gt; 1722

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4801

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<213> B.fragilis
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&lt;210&gt; 4803

&lt;211&gt; 2961

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4803

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&lt;210&gt; 4804

&lt;211&gt; 1002

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4804

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&lt;210&gt; 4805

&lt;211&gt; 3459

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4805

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&lt;210&gt; 4806

&lt;211&gt; 669

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4806

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gtaaaataa						669

&lt;210&gt; 4807

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4807

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&lt;210&gt; 4808

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4808

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&lt;210&gt; 4809

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4809

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&lt;210&gt; 4810

&lt;211&gt; 873



<212> DNA  
<213> B.fragilis

<400> 4810

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<210> 4811

<211> 1344

<212> DNA

<213> B.fragilis

<400> 4811

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<210> 4812

<211> 2397

<212> DNA

<213> B.fragilis

<400> 4812

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&lt;210&gt; 4813

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4813

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&lt;210&gt; 4814

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4814

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&lt;210&gt; 4815

&lt;211&gt; 1206

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4815

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&lt;210&gt; 4816

&lt;211&gt; 1584

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4816

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&lt;210&gt; 4817

&lt;211&gt; 639

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4817

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&lt;210&gt; 4818

&lt;211&gt; 582

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4818

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 <212> DNA  
 <213> B.fragilis

<400> 4819  
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 <213> B.fragilis

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&lt;211&gt; 1158

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4822

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&lt;211&gt; 2511

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4823

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&lt;211&gt; 1023

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4824

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&lt;211&gt; 1536

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4825

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&lt;210&gt; 4826

&lt;211&gt; 1356

&lt;212&gt; DNA



&lt;213&gt; B.fragilis

&lt;400&gt; 4826

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&lt;210&gt; 4827

&lt;211&gt; 1389

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4827

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&lt;210&gt; 4828

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 <212> DNA  
 <213> B.fragilis

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<210> 4829  
 <211> 1470  
 <212> DNA  
 <213> B.fragilis

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 <211> 1485  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 4830

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&lt;210&gt; 4831

&lt;211&gt; 1974

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4831

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&lt;210&gt; 4832

&lt;211&gt; 1404

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4832

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&lt;210&gt; 4833

&lt;211&gt; 1248

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4833

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&lt;210&gt; 4834

&lt;211&gt; 2880

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4834

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&lt;210&gt; 4835

&lt;211&gt; 1836

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4835

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&lt;210&gt; 4836

&lt;211&gt; 2124

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4836

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&lt;210&gt; 4837

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4837

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&lt;210&gt; 4838

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4838

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ttataa						246

&lt;210&gt; 4839

&lt;211&gt; 375

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4839

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&lt;210&gt; 4840

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4840

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&lt;210&gt; 4841

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4841

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&lt;210&gt; 4842

&lt;211&gt; 639

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4842

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&lt;210&gt; 4843

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4843

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 <213> B.fragilis

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 <213> B.fragilis

<400> 4847  
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&lt;210&gt; 4848

&lt;211&gt; 606

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4848

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&lt;210&gt; 4849

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4849

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&lt;210&gt; 4850

&lt;211&gt; 1587

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4850

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&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4851

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&lt;210&gt; 4852

&lt;211&gt; 3096

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4852

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&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4853

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 <213> B.fragilis

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&lt;210&gt; 4857

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4857

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&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4858

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&lt;210&gt; 4859

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4859

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&lt;210&gt; 4860

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4860

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&lt;210&gt; 4861

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4861

ataagattct	cttttgtctc	atttgtcttt	aaaattttta	ttaaacatta	tggttgtcca	60
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tctcctccgg	cgtgggttca	tagtcogttt	cctcctcgtc	ctcctccggc	tcgatgtcgg	360
agtagtccgc	cccgtcgctc	tccgctgcga	gttcgtccac	ggctccggct	accgcttctc	420
ccccgtcctc	cgctccgaag	ggcaggtagg	tgctttctcc	catga		465

&lt;210&gt; 4862

&lt;211&gt; 429

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4862

caaccatcct	caaactggaa	ggctatgaag	aagcagcgga	atgagaagcc	catcgacgag	60
gagctgctga	tgcggtatgat	ggcgggcgag	gcgggcgga	cgggagaacc	gggaaccgga	120
aagggggaaa	ctgccgtgcc	ggtggaaaag	gcgcaggaag	ggaaggcggc	ggacacaaga	180
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gcccgttacg	gcaagccggt	ctatgtgcgc	cgtgagtacc	acgagcgcat	cgccaaaatt	300
tcggtgatgc	tgacgggagg	caaggtgtcg	ctctcggcac	acatcgacaa	cgtgctggca	360
cagcacttcg	agcaataaccg	ggaggagatc	gaggcggcac	acgccgggaa	actggagaac	420
ctctttttaa						429

&lt;210&gt; 4863

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4863

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ccgtcaggca	cgcttcacgc	gaccgttccc	tccacggaat	catcacgaat	gacatccagt	180
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ggattgccga	agccacctcg	taaagatcgg	ctctgccctc	gccgtaccag	ttccgtatgg	360
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gttccgcact	cgcttcacgc	gcacggcggc	acatctccgg	ggttttcatg	tcctccagca	480
catgttccag	cgaccatccg	aactccctga				510

&lt;210&gt; 4864

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4864

gcacttttac	cgttggtctc	gttagctcca	tcctttccgt	cctttccatc	tttgccatcc	60
ttaccgaaag	cgggcttgcc	tgtatccgtt	ccatttatat	accagttgcc	gttatcgcca	120
atggcaacct	cgggagattt	cccgtcctgc	ccaacggcct	ttttcccggt	atccgttccg	180
tccacaaacc	agttgccgtt	atcgccgatg	gtgaccgtag	gaggcacggc	atcctttccg	240
tcctttccat	ctttgccatc	cttaccgaaa	gcaggcttgc	ctgtatccgt	tcogttaata	300
taccagttgc	cgttatcgcc	aatggtgact	gtcggcggtg	tagcatcacg	accatttcgtt	360
ccgtctttac	cgtctttacc	atcctga				387

&lt;210&gt; 4865

&lt;211&gt; 2064

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4865

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tatatgaatt	atcgtgaagc	caaccataca	cagcttgctg	caaatagaac	ccctatcatt	180
cctgtatata	ccgaaaccgg	tggttggggg	ggtgcttctc	tcgatgtggg	tatggatgac	240
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gatgaaaagc	gtacgtctac	gtatttcctc	aaagacgggt	cgtacttgaa	gttgagaacg	1860
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cgtgcctatg	tttcgggctaa	caatgtattc	actatcaaga	aatgggtggga	tagcaatcgt	1980
ttctcaggtc	cogatoctga	aatccgtgac	tttgggtatg	tcattccatt	taccgctaca	2040
gtcgggagtta	atataacctt	ttaa				2064

&lt;210&gt; 4866

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4866

tgcttttacgc	caaacaacaa	tagatcgaca	gattataaaa	ccattaaaaa	gaaaggacaa	60
atgaaaaaga	ttttttggatg	ggtcgocctg	cttatgggca	tggtgacggg	tgcaaacgca	120
caagtgaatg	atacgatata	gcgggttacg	ggcaacgacc	tgtatcaggg	gattacacgg	180
aagctaccct	accggcagat	ggttacgccc	cacgggggtgc	aggtgacgtt	cgccaagacg	240
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gccgggaaag	cggacgggtgc	ggagaacgtg	atccgggtga	aggcgaccac	cgaggggttt	360
ccgggggaaa	cgaacttttc	cgttatctgc	gaggacggaa	gtttctattc	gttcaatgcc	420
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gaactgttcg	agaaggacgg	cggtaggcac	cagaccatcc	gggtggagaa	cgccgacctc	960
gtggcggcaa	aacagattaa	cgaactgaaa	atcaagtaa			999

&lt;210&gt; 4867

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4867

catccacagc	cctgccatga	gcaggcagat	ataccgcagc	gtaagggtgg	cgatatacag	60
cacggtgtct	gccggaagcg	acagagggaag	ggcgagcagc	caccagttgc	cgaaaaagag	120
cagcaagccg	gacacgccgc	aaaggatgat	cctgcgccac	gtgattttct	gctccttcac	180
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gatattggag	aacagcccgg	cggtagcgtg	gaagccgagc	aatatcctat	cgaccacgcc	300
gatgtcgatg	ccccattccc	ggacgggactg	gtaacagaac	caataaatat	tgatgactac	360
aaataa						366

&lt;210&gt; 4868

&lt;211&gt; 1296

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4868

cacatcggta	cattattttat	acttcgtctc	cgccagtcgc	ttgatggcaa	gctccaaatc	60
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gatgggggac	gagatgatgt	cgtccacctc	ctgcgtgacg	acaatcgctc	cgccgaaata	420

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cagcaggaag	tcatagcgtc	cgcccttgta	atactgcctg	agtgtggtca	ggaagttgtc	720
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ccggcgggatg	tacgcgcaga	ccgcactgcc	cagctcgccg	ctctccgtct	tcgtgatttt	900
ctcgtcctcg	cccttcacac	gcgccagcag	caacgtcttg	atgctgtcct	tcttctccac	960
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cgctcatcctg	tccgccatct	tgatgccgaa	gggtga			1296

&lt;210&gt; 4869

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4869

gttatggcaa	caacgaacag	caccatcgaa	aaaattgcac	cgatgttcac	cgagttgttg	60
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caaggtttgc	cccgcaacat	cagagggacg	ctctataatg	gcggcaatgt	cttgatgtta	180
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gaaccgcag	cagcctaa					978

&lt;210&gt; 4870

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4870

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aacaccggag	cgggtgcggg	tggcgggtgga	aacgtcgggg	atgtccgccc	tcgggcgtgg	180
cggagtgccg	aaaagcctgc	tcacgcccga	tgtgtatgtc	aggtgcggcg	cccacagtcg	240
ggagtgcgtg	atgatgatcc	cgtgggcgga	acgtcggccc	gaggtctgcc	taatggcgaa	300
gacgtgtac	ccggacatag	tgaagaatca	cccggagttc	gtgccggaga	gcgtgcataa	360

&lt;210&gt; 4871

&lt;211&gt; 663

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4871

agacataaga	cgatgaaaac	attatcagaa	aaggaattta	acggctttta	cgттаатгсг	60
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tacgacatcg	aaagggcggg	caaccaatac	gaaaagccgt	gcaatatcgg	cgtgttcacc	360
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gctgattacg	acacgttccg	gctgatagcc	gataaccgct	atatcccgaa	aggaaactat	660
taa						663

&lt;210&gt; 4872

&lt;211&gt; 1770

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4872

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ggaaattata	tacagaatcc	gggttactaa				1770

&lt;210&gt; 4873

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4873

cttataaaat	atgcgcttat	gtttttatac	ttttgcattc	atattcagaa	aagaaattat	60
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tataaggaag	cacagcccca	ccctgcattt	aaagattcca	ttgtcctcgt	aactccagtg	180

gaaccgcaac	cgattgcaag	taaaagccaa	accgcctttt	atctggattc	catcgggtctg	240
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aattttaccg	gtcaacttct	ttatactgat	ttgaaagaag	catatcttca	cccggaacga	360
gctaaaagctc	ttttagaagc	acatctgtta	cttaaagccc	aatatcccag	ctaccgcctg	420
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&lt;210&gt; 4874

&lt;211&gt; 183

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4874

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&lt;210&gt; 4875

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4875

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&lt;210&gt; 4876

&lt;211&gt; 2211

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4876

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&lt;210&gt; 4877

&lt;211&gt; 2331

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4877

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 <212> DNA  
 <213> B.fragilis

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&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4880

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&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4881

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&lt;210&gt; 4882

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4882

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&lt;210&gt; 4883

&lt;211&gt; 396

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4883

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&lt;210&gt; 4884

&lt;211&gt; 465

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4884

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tccaaatata	ggattgtggt	taagggtccag	gggatgttga	aagaaaagcc	ctatggacaa	420
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&lt;210&gt; 4885

&lt;211&gt; 861

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4885

aaaaacagaa	acatggaaca	agaagaaaaga	atgtatcagg	tacctctgga	gatgatatgc	60
aggcacgacc	gcacggcgga	ggtgtgccgt	gccgccgttg	aagaggacgg	ctggcagctg	120
gagaacgtgc	ccgaagagat	gaagacacccg	gaactgtgcc	ggaaggcgct	ggaaacggaa	180
gcgggattcg	ggaacgactt	ccaccggggg	ctgggttcagc	atatcccttt	tgccgaggtg	240
tgcatggagg	tgctgaagga	gtgccgggag	aataacccgg	aagaactcta	cggggtggcg	300
gtggctatcc	gcccgagggt	gatgaatggc	gaaatggcgg	acttcctgct	gccgctggac	360
ggcagggtgta	tcagcatcct	gcccggtgcac	gccaaacac	cggagcgggt	gcgggtggcg	420
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cccgatgtgt	atgtcagggt	gcgcccccac	agtcgggagt	cgctgatgat	gatcccgtgg	540
gcggaacgct	cgccggagggt	ctgcctaata	gcgaagacgc	tgtaccggga	catagtgaag	600



aatcaccg	agttcgtgcc	ggagagcgtg	cataaccaag	acagcatcta	cacgctgaac	660
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aacgggaagc	cgctgaatgt	gaaacggatg	gaaacgccc	gcggcgtgca	gaaggacaag	780
tcggtgaagt	tcgacaagga	gacgggaggg	ttctccttct	ccgacatccg	gcaggagcga	840
aaacggggat	tgaagatgta	g				861

&lt;210&gt; 4886

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4886

aaaaccggaa	acatggaatt	taagagtttg	aaaaatatcg	aaacgagctt	caggcagata	60
cggtctttca	cgctgggtatt	cgctgcctg	tgcgcctgg	tgacgggctt	cgccctgtgg	120
aagtcgtaca	gcttcgccga	ggcgcagcgg	cagaagatct	acgtgctgga	caacggcaag	180
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caogtgcgcc	gcttccacga	gctgttcttc	acgtctctcg	ccgacaagtc	ggctatcgag	300
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atagacagcc	tgcggtgcca	cttcgacaag	taccctgaca	gcgtgcggac	gttcgcccgg	480
cagatcatcc	tgcgggaaag	ctctgttacg	gagcgcagcc	ttgtgacccg	ctgccgcctg	540
ctggatgcgg	tcaggagcga	caacaacccg	cagggtctca	tcacgcaggg	gttcgagatc	600
acggagaaca	aggatttgca	gaccctcaaa	cgctga			636

&lt;210&gt; 4887

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4887

ttgaatatga	agaaaaaat	aacgatatgc	tttgtgtgtc	tctccttgct	gttgggtctct	60
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acgcatgacg	gactgtcaga	aaaggaatca	aaagcctggg	agatcgggtct	cggcgggttcg	180
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tataacctga	aagcgaatca	tctgatggga	ggggcaaaact	tgtacatcgc	acgggaattg	300
aaccgggtggt	tttacctgga	tttgacggga	agcgtcgggt	tgacgaaaaa	caacaaccgt	360
accgcaggtg	atgacaggaa	acgtgatatta	ctgtacatgg	ggggactggg	gctacaattc	420
cgctttactc	cctgtctcag	atcccaatgg	gttgaacctt	atctcagggg	aggtgtgaac	480
tatctgcata	aagactttgc	ttccgtatat	ggcggaacct	ttgaggatga	tccaaccggg	540
tcttcaccac	ggggctggaa	ggatcgacgg	ggttcg			576

&lt;210&gt; 4888

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4888

cagttatcga	atcatgaagc	ggattcccac	gccgacctgc	gtgtggaatt	tcccgcagtc	60
gocgccgaac	agcaccctgt	ggcgaccgtt	taccagcaag	acaatcttgt	ccgtcacgta	120
ggcggacagc	tccagcgtga	gcgcaccccc	gtagatgaaa	ttgtcctcat	ccgtgagccg	180
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cagtcccagt	gcggcggaaga	acgtcttctt	ccggtcggaa	aggaagtcca	ggtaatatgcc	300
gcccctcgccc	gtgaattggc	tcgcgggata	gaggcagtc	cggtagccgt	accgcttctc	360
caagtattcc	acaccgacca	cccaatggtg	ggcgttcttc	gtgtaggtgc	tcaccgctat	420
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cgtgagctgt	atgcccctca	ttccgggcag	gcaccgttgg	gcgtgtgccc	ggttcacatg	540
caggcacacc	ccgaaaagca	ggataatgaa	cagtaa			576

&lt;210&gt; 4889

<211> 702  
 <212> DNA  
 <213> B.fragilis

<400> 4889  
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 aagggcatcc tcaatctgtc cggcaggacg gatatttatt tcaaacgaaa atggcaagtt 120  
 gtgtgctgcg gcaactcgaaa tgaatttcgt gcctcaccac caccttgccc cctcgatgtg 180  
 gcattcccct cgggagtcgg gggatgctca cgggggagag ccgtaggcat acggcggttt 240  
 cagaccatgt ttcaactaaa attttacagg atgatggaca atcagaagaa gtatgcgggc 300  
 aaccacgggc gaaaacccaa gcccgacaag atgcgccacc gctacgtatt ccgtctggat 360  
 gacggggaca acgcccgttt cctcgcgctt ttcgacgagt cgggcaaggc gaccaaggcg 420  
 gagtttatcg ttcccgcaact ttccggcaag gagattaagg ttattaaact ggataagggg 480  
 acgcaggatt tctacatgcg cctgaccact ttccactcgc agttccgtgc cataggcacg 540  
 aactacaacc aatgcgtgcg tgcgctcaaa tccaatttct cggagaagaa agccctcgct 600  
 ttctcttaca agctggagcg gcacaccctc gaactggtcg agttaagcaa gcggatttcc 660  
 gcaactggtgg aggagttcca gagcaaatac cccgtccgat ga 702

<210> 4890  
 <211> 222  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (201)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4890  
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 tacagtagag gtgggcgga ttcgtggtgt agcgggtgaaa tgcttagata tcacgaagaa 120  
 ctccgattgc gaaggcagct cactggactg caactgacac tgatgctcga aagtgtgggg 180  
 tcttcaccgc ggggtggaag ngtcogtgc ataggttttc ta 222

<210> 4891  
 <211> 330  
 <212> DNA  
 <213> B.fragilis

<400> 4891  
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 gacgctcgaa agcaagttcc cgctgctggc ggtggagaac ggctgctcgc tgagcaagga 120  
 ggcggacgtg acggtcgct tcaagggtgga acttcggaa ctgttctcgc ttacagggag 180  
 cgagtacgag gcgatccact cggcttgga caaggcgggtg aaggtgctgc cggagtattc 240  
 catcgtaac aagcaggact tcttcacga ggagaagtac cggccggaac cggacagga 300  
 cgacctgagc ttcttgagcc ggagctttga 330

<210> 4892  
 <211> 837  
 <212> DNA  
 <213> B.fragilis

<400> 4892  
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 gacagacaga cattgaacgt ggctttcgcc acacagaaag gcggcagcgg caagacggct 120  
 atcacggtgt tgggtggcggg ctacctgcac taccgcttg ggtgtccgct ggcggtgatc 180  
 gactgcgact tccgcagta cagcctgtac gagatgcggg aacgggacag cggggcggtg 240  
 ctggagaacg aatacctgaa acgggcggtc tacgaacaga tgcggcagcc gggcggtgcc 300  
 gcctatccgg tgcgcaagtg ccgggtggag caagcccccg acacggcaag ggagctggcg 360

gcggaaggct	gctacgacct	gctcttcttc	gacctgccgg	gcacggtgaa	ctcggcgggc	420
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gtattggaga	gcacgctctc	cttcctcgac	gtgctgcaac	ggatgatgct	gggcaaagag	540
acgagccgcc	tgaaggggct	ttaccttttc	tggaaaccaag	tcgataagcg	ggaaacgagc	600
gggctgtacg	agaagtacgg	gcaggtagtc	gccgacatga	ggctgccgat	gctgcaaacc	660
cgcatacccc	acacgaaacg	cttcgcgaag	gaggcggaca	gtacgggacg	gacgggtgttc	720
cgctccacgc	tgctggctcc	cgacaggcgg	atgctggcag	gcagcggcat	ccccgaactg	780
accctgtgaga	tagcaaccat	cctcaaactg	gaaggctatg	aagaagcagc	ggaatga	837

&lt;210&gt; 4893

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4893

aacagtaagg	acatgagaac	aataaaggca	atcattctgg	gcgtggcgtg	cctgacggca	60
ggtgcgccca	acgcccgaatg	ggtcgtacac	gaccccgcca	atctggcgca	gggcatcatc	120
aacacagcta	aggagatcgt	ggagacctcc	gccaccgcac	agcacacgct	ggacggcttc	180
agggaaacgg	cgaagatatt	cgagcagggg	cggaaagtatt	acaatgcgct	aaaggcgggtg	240
catgacgtgg	tgaaggcgcg	agtgaagggtg	aagaagtcca	tcgggctggg	ggcggacatc	300
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gagctggaaa	ccatctcggt	cgggtacgcc	aagctgttga	gcgagagtgc	ggacatcctg	420
caagatctga	agaacgtggg	gaacgtgacg	gggatgtcgc	tctcggatgc	cgaacggctg	480
gctatcatcg	accagagcta	caagcggctg	ctggagtacc	gcaacctcgt	gcagtattat	540
acggacaaga	acatctcggt	gagctacctg	cgggcgaaga	agaaaaagga	cgccgaccgg	600
gtgggtggctc	tctacgggga	tgcggaagac	cgttactggt	ga		642

&lt;210&gt; 4894

&lt;211&gt; 1080

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4894

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aaggcacgct	caaactggat	gacggcacgg	tgctgctgcc	caatgaccgc	taccgcgtgg	120
agaaagagac	gttcgggctc	tattacaccc	ggctgtcgga	cgagcagagc	agcttcaccc	180
tctgggtgga	ggactcggac	ggtcaggcgg	tcgagctgga	atacgacttc	aatgccggaca	240
acgacaagga	ggacggggat	ggaagtggaa	ctgggaaaga	gtgaggtgcc	ggctttggcg	300
gaattgaaag	acctgtgccg	gcacgagtgc	accgcagagc	ggtacgccga	taccgtcagg	360
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ctttcgaccg	gcagaaagag	acgttcggca	tcgccccctct	cagccagcgg	caggagcaga	1020
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&lt;210&gt; 4895

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4895

agagcggttt	gtcagcttgg	cggaggagta	tatgcggcgc	atgggcttcg	gcgaccagcc	60
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ctatatcgtc	tategccaca	acgacatcgg	gcgggagcac	ctgcacatcg	tttccgtccg	120
ggtggacgaa	accgggcggg	cgatttccga	cagctacgaa	cacgggagtt	cgatgaaggt	180
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gccctcgtac	ccggcgaggc	gtccgggtgac	cagcccgtac	cgccgcagcg	caaaaagaaa	1020
aagaggcgca	agtacggcag	gcaacaataa				1050

&lt;210&gt; 4896

&lt;211&gt; 681

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 4896						
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tctgtgcgat	cgtgcgcagg	atgcccgccg	agttcacccg	gcccggcagg	tcgaagaaga	420
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tgtactgcgg	gaagtgcgag	tcgatcaccc	ccagcggaca	ccccaagcgg	tagtgcaggt	660
agccccccac	caacaccgtg	a				681

&lt;210&gt; 4897

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 4897						
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ggagaaggtg	cgctcgctgg	aggacttcgc	cttctccgaa	gagagcgata	tggacggggg	120
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gttctacgag	gaaccgaagg	tggacgggga	aaaggaggag	ctgaaaaggc	aggtggagga	300
gttgaccgcc	aagctggaag	aaagggaacg	gcaggcgggc	ggaatcgatg	a	351

&lt;210&gt; 4898

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 4898						
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ccgccacggc	gggtgtctt	ggactgttgt	cgttctgcac	ggctgcgcgc	tccttcccgt	120
tctgtcccat	gtacttggcg	gcaagctcgt	agctcttctc	catcagcgcc	acctgatcat	180

cgattccgcc	cgcttgcct	tccctttctt	ccagcttggc	ggtcaactcc	tccacctgcc	240
ttttcagctc	ctccttttcc	ccgtccacct	tcggttcctc	gtagaacgag	ccgagctgac	300
ggttga						306

&lt;210&gt; 4899

&lt;211&gt; 1791

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4899

caaagaaacc	gatttcccga	ccggaagaaa	ttatcaaaaa	gaacaagaat	aaacaatcaa	60
cttaaaaaca	aacggattat	gaagacaaaa	gcaaatcaat	cagcagcaga	gagaaacatc	120
acgatggtag	cattggcaaa	cattcagccg	agcggtttca	acccacgcaa	gcgtttcgat	180
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tctcccgtgg	agaaattgga	gaagcaggac	aagcgcaata	aggaaatcgc	actcgaacgc	1320
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gccgatgaag	acacgatgct	gtacttcttc	cttctgtcct	cgctccggaa	ggaacacttc	1440
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atcggaiaacc	tcacggtaaa	gatgaagacc	atcatccgca	gggacttcct	tgtagccaac	1560
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aaggtaacgc	aacccgagga	acaaccgcaa	cccgaagaga	ttgcagccta	a	1791

&lt;210&gt; 4900

&lt;211&gt; 237

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4900

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&lt;210&gt; 4901

&lt;211&gt; 1374

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4901

tggaagaaca	gacccaagaa	aaagcaacgg	ccaacgcagc	acgtgacggg	ggcgggatgcc	60
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&lt;210&gt; 4902

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4902

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taa						723

&lt;210&gt; 4903

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4903

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 ctgtaa 306

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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 atgaacggcg aggtctatct caggggtgag gatgtgtgca gaatgttaca tatcacgtca 180  
 aggacgttgc agggctaccg cacacaacgg ttgatcccgat acatatcgct gccaggcaag 240

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caaaagcgca	aacgggggaa	aagtccaaca	taa			333

&lt;210&gt; 4908

&lt;211&gt; 1224

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4908

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gtattacaag	ggcggacgct	atga				1224

&lt;210&gt; 4909

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4909

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&lt;210&gt; 4910

&lt;211&gt; 1431

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4910

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&lt;210&gt; 4911

&lt;211&gt; 861

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4911

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&lt;210&gt; 4912

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4912

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caggaagaag	gcaagtaa					198

&lt;210&gt; 4913

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4913

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210

<210> 4914

<211> 2055

<212> DNA

<213> B.fragilis

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cagttccggt	ataaatatag	ctcttggggc	agtgaatatg	aacacttgag	caaatattgt	1920
caatcagatt	tgccacaact	aaaattaatc	aatgaaagac	taaaggcaga	agcggcaaac	1980
aggagattga	tagaaaagta	ttccattgag	aagatcacga	acctgataga	tgaaattacc	2040
gcaaaaagtaa	aataa					2055

<210> 4915

<211> 399

<212> DNA

<213> B.fragilis

<400> 4915

aagaacaagg	gtgcagcaac	ggacgagtac	ctgcaacagt	tgagccgaca	gatagaccgg	60
ttggaagggt	tgaaagtaaa	ccacagccat	agtttcaacg	tgacatatct	caggtcgtat	120
cttgttcaag	tcaccatcgt	ggaattgttt	cttttttcgc	tgggtcataa	cgcattggcg	180
cttaaaaagg	gctggcggct	caaataccgc	tacgttctga	tgtcgggaaa	tgcggacgcc	240
aagacacttg	acaggctgga	gaactgcttc	gagtggaaaca	gggacaggaa	gctaatatgg	300
aagatcagga	aagaggtgga	ggacttcgag	cgttggacgg	aaaagaaaagt	ggcagaaatg	360
ctgcgtgcta	aaagacaaca	gccgggagtg	gggaaataa			399

<210> 4916

<211> 507  
 <212> DNA  
 <213> B.fragilis

<400> 4916  
 agtccgttct tccccgtgc cccaaagcaa aaaataaatg tttcactttt aattttttgc 60  
 attatgaata cactgtcttt cctcaaatac accgtaagtt acaaggacgc tgacgcatcc 120  
 aagagagtta gaatccactc ttccaaggag tcttacgaca tcctcaagac tttctacgag 180  
 gactgtatgc agcaccacga ggagtgcctgg gcgatgtacc tgaacggcgc aggcagactg 240  
 ctgggctgtt cgtgcgtctc acgcagcggc atgaacagta cgggtggtga catacgcac 300  
 gtccctccaga cggctctcgt ctctcatgcc tcgggaatca tcctctcgca caaccacct 360  
 tccggctcga ccgtggcgag cagcccgac aacaacctga ccagccagtt gaagaaaggc 420  
 tgcgaggcaa tcggcataca gcttttagac cacatcatac tgaccgagga cgcctacct 480  
 agctacatgg acgaggggat gcttttaa 507

<210> 4917  
 <211> 1014  
 <212> DNA  
 <213> B.fragilis

<400> 4917  
 tataggacta tgttggttagc gatagacttc acgaacctgc atgagatatt gcaggatttg 60  
 tatcaggaca tgatgccgct ctgcgagaag ctgacggggg tagccaaggg aattgccggg 120  
 ctgggtgcgc tgttctacgt agccgccaaag gtgtggcagg cgctcgcccg tgccgaacct 180  
 atcgacgtgt acccgctgct ccgcccgttc gccatcgggc tgtgcatcct cttcttcccc 240  
 accttcgtca tcggcacgat caacacgggtg ctctcgcccg tgggaagggt ctgccacggg 300  
 atgctcgaat cacagacctt cgacatgaac cgataccggg agcagaagga gacgctggag 360  
 agggaggcgt tccgccgtga cccggagaag gcatactctg cgagcaagga ggacttcgac 420  
 aagaagctcg acgagctggg ctggctcgcc aaggacttga agacgatggc ggtgatgtac 480  
 atcgaccgga cgggaatacaa catgaagcgg aacatccggc tgtggttcca agaactgctc 540  
 gaactgctgt tccagtcggc tgcgctgggtg atcgacacga tacggacgtt cttcctgac 600  
 gccctttcca tccttgggtc gatagcgttc gccctctcgg tctatgacgg gttccagagc 660  
 acgctcacgc agtggtataac gaggtacatc tccatctaca tgtggctgcc cgtgagcgac 720  
 ctgttcagct cgggtgctggc acgcatccaa gtgctgatgc tcacccgtga catcgaggcg 780  
 atgagcgacc cgaccttcac cccggacagc tcgaacacgg tgtacatcat ctttttaac 840  
 atcgggatat tcgggtactt caccatcccg acggctcgca actggatcat catggcgggc 900  
 ggggtgagcc aagccaaccg tgcgatgaac caaacgcaa acaaggctcg caacgtcgcc 960  
 gcagcgggtg cgggtgccgc cgtggggaac atcgccggaa aaatcatcaa gtag 1014

<210> 4918  
 <211> 1329  
 <212> DNA  
 <213> B.fragilis

<400> 4918  
 ttaactacct ttagaaacga aaatttttaga gttatgaaaa caaagagaag tacgtttgca 60  
 acctcgttct acatcaagag atcggcagtg agaaaccggg acggaagag ccccatcatg 120  
 gtgaagatct ccattgatgg ggatgacaaa gtattgggaa ccaaactatt cgttacgccg 180  
 gatttatggg agaatggtaa ggcaaaaggc aagtctgccg aggcgacaga gataaacggg 240  
 cagctcaaag aagtcagtcg ccggcttacc aaccactatc accgcatcct ccgggaagag 300  
 gattttgtca ccgccgaaaa gctgcgtaac gcctttcttg gtatcgggtg gatggaaaac 360  
 tgtatcctga aagatttcga gaacatgaac cggaatttg aggcgatggt ggagaaagga 420  
 cagcgtgcca aatccactta caacaagtac ttggcctgtg acaaccattt tgccaccttc 480  
 ctttgggaga agaagaaacg aaccgatatg gcttacaagg aactgacaaa ggagattatc 540  
 accgatttcg acaagtacac gcgcgtggaa aagggtatga gtgacaacac tctttggata 600  
 tacaccatgc cactgctcag cctgacagac aaggcatggc ggcgtggtat cgtccgttcc 660  
 gaccctttcg gcgagtacag ccttgaaatg caggagacag accggggcta cctcacggaa 720  
 gaggaactgc gcaccctggc taacgccctg ttcgtgaaaa aacagaccaa cctcgtacgt 780  
 gacatgttcc tcttcgggtg cttcaccgga cttagctaca ttgatataaa gacactcacc 840

catgacaaga	tccagcgc	cat	ggacttcgac	ggcgaggatt	ggatcataac	ccgacgcacc	900
aagacccgtg	tgtcgcag	caa	cgttccctt	atggaaatag	ccaaggaact	gatagaaagg	960
tacaagggac	ttgccggagg	cgatttcgta	tttcccatgc	cctctaacgg	tacatgcaac		1020
aagcacctca	aacagattgc	caaagcctgc	ggcatcagca	aggagatcgg	attccacctg		1080
agcaggcaca	ccttcgccac	gaccgtctat	ctctgcaacg	gcggcacgat	agaggcgctc		1140
tccaagatac	tcggtcacaa	gcacatcagc	accacgcaga	tctacgctga	agtaaccaac		1200
aagatggtaa	gttcagattt	ccgtgcaatc	tccggcaacc	tcgccgccat	gcagcggagc		1260
gtactggaga	aaagggacag	gaagcaagg	aggaaaaagg	tgcaccggtc	cctccgggaa		1320
acggcttga							1329

&lt;210&gt; 4919

&lt;211&gt; 315

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4919

atTTTTgact	tgatggaaga	acagacccaa	gaaaaagcaa	cggccaacgc	agcacgtgac	60
ggtggcggat	gccccaaacc	cggagacggg	gaacggaaaag	aaggaggaca	agggcggcgg	120
gaaaaaggag	aagaagacag	ccaagccgct	cacgccgaaa	cagttgcagc	aacggaagaa	180
gctgatggta	tatccgctga	tgggcttgc	gttcctcggc	tcgatgtggc	tgatattcgc	240
accttcggag	gagcgggacg	tgaaccggga	caccgtgggg	gcgttcaacg	ccgacatccc	300
cctgccggag	aatga					315

&lt;210&gt; 4920

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4920

atccatatat	ttgcagggaa	gtataatgaa	aatgtatca	gaacgatgga	aatagtaagt	60
attgaaaaga	agacctttga	ggagatgaag	gagcggttcg	gctgcttctc	acggcacgtg	120
aaggaacttt	gcgcccgtta	ccgcccggcc	gggaagatga	actggatgga	cggggcggac	180
gtgtgcgaga	aactggggat	cagtaaaccg	acgttgcaga	cctaccgtga	ccggggactg	240
ctgccgtaca	gccagatcaa	ccataagatt	tactaccgga	cggaggacgt	ggagggtattc	300
gtggaatcca	tgagccggga	aataatggag	gacgagtga			339

&lt;210&gt; 4921

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (840)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4921

agaatagtgc	ctatgaaact	taagtattgt	atTTtatctc	tactcttttt	ttatctgaat	60
atTTcttcta	tccaggccgt	aataccacag	atggaaagtca	gtccggatga	gagagggtgtg	120
agttcgctcg	TTTTtcaagg	tgccgggcaat	gttcgggaatt	atgtagacca	cgggaaatat	180
ctgggcgatt	tgagtctgat	ttatgaagta	agagggaaga	gttatgccgt	ttctttggct	240
gatattactc	ctctggtctt	gtcgaatact	ccggataaga	tacagatatt	ctggcagctt	300
cctttcgatg	tgcgtcttta	ccaaactttt	actattaaag	gagaagaagt	agactgggag	360
attgattttt	ttaatcgcag	tcattcatccg	gtgaagggtga	cggatatgtg	gttcgctctg	420
cctgtggggc	ctttgggatga	gtctattcag	gcacatcaga	acctgaaccg	tcattttctct	480
ctgaatggaa	atgcctcctt	cttttatttg	actccgctga	cagggcaagg	tgatattctg	540
ctgatgacta	tgcataaggg	aactgcgata	gaatatgcta	cacaagatgg	caagtactat	600
ctgcattcaa	tgaatgctgt	agatcgtacc	aatgatagct	ggagattacc	gtctacctca	660
aaaaacgtac	agccttacga	gcattacatg	acaggtttca	acttcacact	cactggaaaat	720

catgaagagg	taaaaacgaa	gattttatgat	aaacacggag	tggttgtgaa	agttgctccc	780
ggtatggtag	taactcctga	gtttgaggtc	tatttgtgct	tgcaatcgaa	actgcctgtn	840
gctgaattag	tggcagaata	tccagaggag	atacagataa	ccagtcttgg	acaaaaggaa	900
ggagataaat	atatctataa	gttccgtttc	tcccgttttg	gagaaaacct	gattacgggt	960
cattatggag	atgatttgat	atggctttct	cgatttcttt	tgtga		1005

&lt;210&gt; 4922

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4922

agacataata	tccagttagt	gccctacaaa	aaaggagact	ttccggaggc	actgatggaa	60
atgagctata	tagggacgaa	tcaattgaag	tttacgggtga	cagatcggcg	gattccttcg	120
ggcatccgga	tgaagccgaa	tattcataatc	tttggaggag	ttgccaatca	accgggtaat	180
acaattatcg	agagtcgctt	tgtagcgtgt	gatgctgac	gtgcaatacg	taaatactct	240
aatgatgcat	gggtagctgc	ttatttttgg	ttacataacc	aacagttgga	agactttcag	300
ggatatagtg	caggatacaa	atattatacg	ttccaagatg	aacgttcgta	tggagcgttt	360
cagactaacg	atccattatc	ccgccgtcct	acggaaggat	tttataaaact	tggatgatg	420
tacaaccggg	atacttactt	gcagcctttt	ttggatcatg	gagaaaaaat	cattccttcg	480
caagtggata	tgtacgtgaa	tggtcgttcg	acttttgttg	cagctgatga	ttcgcccttat	540
aaatatgatt	tggacgggaa	cggagttatt	gaatcgtatg	aatgtgaact	cgatcctgct	600
accgggtctt	cgggtacatga	agccgactat	acaaagtaca	aagggttttc	gggagatggt	660
tatctctctt	ttatagagat	gggaactgat	gaatatgaac	cgtggaatac	cggtgtttca	720
ttaggttctg	tatatactac	cggaggaatt	cagaaaactt	ataagtatat	ttacaccgga	780
gccggtgact	ttacaattac	cgctgttgct	accaatgtag	gtgataaaga	ttataaagga	840
atagattata	gcgaggaaag	aagtaactct	ttggatgact	atagtcataa	gagagcactt	900
agcagtgtga	aggtttcggg	aaaaccgtag				930

&lt;210&gt; 4923

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4923

gaagcagtgt	tttctatacc	ggtggatacg	acatttatga	ggcttcgtca	atgggagtg	60
tattgtcaga	aacgggctga	cagttgtctg	acagagaata	attatcaggg	agctttatct	120
tggctggatt	ccgctcgtat	ccaagtggaa	cattacggac	gtccttatta	tatataggca	180
cgcggggacg	tatattatcc	catccatcaa	tatgattctg	cccgtcgtta	ttttagtatg	240
gcagtccatt	ccattcatcc	acatattgct	atcgaagctt	ggaggaaact	tgcagaactg	300
gaacttatgg	aaggaaatga	gaagcaagg	ttctattcta	cgcagaaggc	agatgcactt	360
ttccgggtgg	agataggcca	tgtgcagagt	gataacagtg	aagctctata	tcagggaagag	420
aggttgaaaa	acgagttaaa	ccaattgaag	attgccaaac	agaataggga	aattgccatg	480
tcttcaccac	ggggctggaa	ggatccgcga	tggcggtcac	cc		522

&lt;210&gt; 4924

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (17)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4924

gcactttttt	ttcatnttta	taccaaata	atgttgttta	ttccaagaaa	aatttgtgtc	60
tttgcaaaa	aaactaaaac	gccaaacact	atgtacggta	aaatgaaaga	acacctcagc	120
aatacgattg	ctgaaatcaa	agaagcaggc	ctctacaaag	aggaacgctt	aatcgaaagt	180

gcacaacaag	ctgctatcac	cgtaaaggc	aaagaagtgc	tgaatttctg	tgccaacaac	240
taccttggat	tgtctaacca	tccccgcctg	atcgaagggtg	caaagaagat	gatggaccgt	300
cgtggatacg	gtatgtcttc	tgtacgtttc	atctgcggaa	ctcaagatat	acataaggag	360
ctggaagccg	caatttcaga	ctatttcaag	accgaagaca	caattttgta	cgcagcctgc	420
tttgacgcta	acggcggtgt	attcgaaccg	ttgttcaccg	acgaagatgc	catcatctcc	480
gactcgctga	accacgcttc	catcatcgac	ggagtacgtc	tttgcaaggc	aaagcgctac	540
cgttatgcca	atgcagacat	ggccgacctg	gaacgtttgcc	tgcaggaagc	acaggctcaa	600
cgtttccgca	tcatcgtcac	cgacggtgta	ttctcaatgg	acggaaacgt	tgctccgatg	660
gacaaaatct	gtgacctggc	cgaaaaatac	gatgccctgg	tgatggtaga	cgaatctcac	720
tcagccggtg	tggttgggtgc	aaccggtcat	ggagtaagcg	aacagtacaa	cacttacgga	780
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acaaccggcc	gcaaagagat	catcgacctg	cttcgccagc	gcagccgtcc	gtacctgttc	900
tccaactcac	tcgctccggg	cattatcggt	gccagcctcg	aagtattcaa	gatgctgaaa	960
gaaagcaacg	aaatccatga	caaactggta	gacaacgtaa	actacttccg	cgacaagatg	1020
actgcagccg	gattcgatat	caagccgact	cagagtgtcta	tctgtgccgt	gatgctttac	1080
gatgccaac	tgtcacagat	ctatgcagcc	cgcattgcagg	aagaagggtat	ctacgtaaca	1140
ggcttctact	atccggtagt	tccgaaagac	caggcacgta	tccgtgtaca	gatttcagcc	1200
ggtcacgaaa	aagaacacct	cgataaatgt	atcgctgcatt	tcatcaaagt	aggtaaagaa	1260
ttaggtgtac	tgaagtaa					1278

&lt;210&gt; 4925

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4925

aagagtttcg	aaaaccgggtt	ggcatgtggg	gatatcgaca	cattgctaata	tattaaaatg	60
aaaacaataa	tgggcgggagt	caccgtcctg	gtgttggttcg	cttcatgcgg	caacagtaata	120
aagactgacg	ctgacccctt	tgcattctatt	acacattctgg	tagattcggc	aatgggtgaac	180
aaaaccgatt	ctattgacag	agaaaagact	tccgacgaac	ctaaaccgat	tgaggctgac	240
gaatcgtttg	acgactttat	ctacaacttt	gcttctgatg	acgctctgca	aaggcagcgc	300
gtgggtgtttc	cgttgccccta	ctacaacgga	gaacgggctt	tgaaaatcga	caggaagtac	360
tggaagcatg	atgacttggt	tgccaaacaa	agttattata	ccttactctt	cgaccgggaa	420
gaggatatgg	atctggtagg	agacacttca	ctcacatccg	ttcagggtgga	atggattttc	480
gtgaaaaaac	gaatgggtgaa	gaaatattat	tttgaaaagaa	ttaaaggggc	gtggatgctc	540
gaagcaatca	atctgcgtcc	gattgaggaa	aacgagaacg	aagactttgt	tgaattcttc	600
ggtcattttg	cgacggatag	tattctccag	agccggcgaa	tccgcccaacc	gcttgtcttt	660
gtgacaaccg	atccggatga	tgacttctcg	ttactcgaaa	ctacacttga	cttgaaccaa	720
tggttttgccc	tttaa					735

&lt;210&gt; 4926

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4926

tgtatgaaaa	gaatgatcgt	ttataaaagt	tgctcgtatg	taatcatggc	tctgctttgt	60
acggcatgtg	ccgctggctc	tcccgaagaa	gatattggagg	atcgggtacg	gattgatccc	120
gttgccgggtg	gatattatcc	ttcaattttct	ccttcggccc	agaccctgtg	ggcgacaccg	180
gatggcgaaa	cgttgaaaga	tagaccgatt	tttctgctgg	aagacgggag	tacgatacgc	240
ctgggtggat	atgatgatgc	caagaatcta	ttggaggagt	attccaaagc	ttatctggta	300
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gcggtaatat	cttcaagcag	cactcctctt	tatatgaagg	cgggtactta	ttacttcaga	420
atcctgtcac	ctgccaaggc	tttaaactca	aagggatttg	tcaatatcgg	taacggagaa	480
tacctgcttg	cgaccgacga	ccggatatcg	caaacagcca	tgacggcagt	gaccattacg	540
aaaattgatg	aaggggggtac	attgaacaat	gtccagacac	tgtatctgcc	ccccatcatc	600
aaccagacag	cgggatgca	gtttactgtc	agggcgggtg	aaggggtgca	caccttgagag	660
atgcttgccg	aaggaatcga	aatcagcggg	attcagcagc	cactggacaa	tacgaccagc	720
ttcgactggg	taaatggaga	tgtgctgcct	gtgaaagtgg	gggatcagag	tgcattcggt	780

cgtatcacac	aggccacccg	aaatgccgat	aacagcctgg	tggcgcatac	cggcgatttg	840
cccacagacg	cacgttctca	ctctatcagt	gtgttgctga	acctgaaggt	gaacggtaac	900
cctactcagt	atcagatgtt	gtccaccggg	ttgtatctga	cagcagggcg	ttcgtacaac	960
tatacggcta	cgggtgaagat	cagtaatggc	gtcactgtgc	tgacctggca	aaaccgttcg	1020
tggacggaga	atgtagtaat	ggataaataa				1050

&lt;210&gt; 4927

&lt;211&gt; 420

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4927

aaaaatacga	taacaatgga	agaacttaca	ctcacgacac	ccgcgctgct	attttcagcc	60
gtttcactta	ttcttttggc	atacaccaac	cgctttctct	cgtatgcca	attggtccga	120
attcttcgtg	accgctatat	ggaagatcct	tccgacatca	atgttgcca	aattgagaat	180
ctgcgcaaac	gcctcaacct	gacccgtatg	atgcagggat	tcggcattgc	cagtctattc	240
ttctgcgtag	tcaccatgtt	tcttatctac	atcggattgc	tcctgctctc	aatctatatc	300
ttcgggttgg	cattgctact	gctgatcgct	tctttggggg	tttccctccg	cgagatacac	360
atatccaccc	gtgccttggg	catctacctg	agtacgatgg	aaggcaagct	gaagcattaa	420

&lt;210&gt; 4928

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4928

aataaacaga	ttagagtaat	gaataataat	gatcccatga	aaagattcgg	atatatcggt	60
tttagtatatt	gcctgtttgc	gctgagtggc	tgcacatccc	atgaacagat	ggatcaggag	120
gagggaatag	tgaaagtgtc	gatgggactt	actgccgctt	ctttcaccga	tgatgatgcg	180
acaacccgtg	cggagcagcc	gatggcacct	gattatgaaa	acctgattag	taattttgtg	240
attctgcagt	ttgaccgtga	aggtatcctg	acaggcagcg	aacataaagt	gctgccca	300
cgggtgctca	acaccacgct	tgaaggaatt	gcgttgagga	ccgggcgcgg	tacggtttgt	360
gtggtgggca	atctggcgga	tggagagatt	gccgcgtggc	ctgataactt	gagtggcttc	420
aagagtctgg	tgggtggatat	gggatggctg	aaagaacgga	atacggaccg	gaatgtgtgt	480
ctcttcgggt	attacgaagg	cgagattgct	gccggcacca	cagctgtgaa	tgtagtattg	540
ggacgtctgg	tatgcaggct	caatatagct	gttttcggcca	agacggcagg	gatattcagc	600
aacgtgagga	tccagttgca	gaatgcgcag	accaaaggct	atltgttccc	ttcggatgta	660
tatctgtcac	cgggaaggagg	cgggaattat	acggaagagg	ttgtcatcgg	tgccgacaaa	720
gtattgggga	cagccccctt	ttaccgctac	tattatatgg	ctgagaatgt	gactgaggga	780
accgactcgg	gtgaacgcac	ccggctccaa	atcaaagcaa	agaaaggagg	ggccgaatat	840
acaaaagcca	ttgacttggg	cagaagtgc	atccatgatt	attccctccg	ccgaaacaat	900
aactatacat	tcaacatcgt	tttagagtaa				930

&lt;210&gt; 4929

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4929

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agacaatcca	aggtagtgtg	tggcacagaa	attcagcact	tctttgcctt	taacgggtgat	180
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&lt;210&gt; 4930

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

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<211> 1770

<213> B.fragilis

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<211> 3183

<212> DNA



&lt;213&gt; B.fragilis

&lt;400&gt; 4932

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&lt;210&gt; 4933

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 <212> DNA  
 <213> B.fragilis

<400> 4933  
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 atgaaataa 729

<210> 4934  
 <211> 447  
 <212> DNA  
 <213> B.fragilis

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 ctggtgacgc tgggactact cgcgggactg gcacccgctt acagggcaat ggctatccga 420  
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<210> 4935  
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 <212> DNA  
 <213> B.fragilis

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 aaaacagaaa tactcacaac tattaatcct cttttgcttt ttttttcata ccttgcgga 180  
 ctttttagatc atacagaaaa atatcccgga acacagtata caagaatgga cgacttaaat 240  
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<210> 4936  
 <211> 3024  
 <212> DNA  
 <213> B.fragilis

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&lt;210&gt; 4937

&lt;211&gt; 1401

&lt;212&gt; DNA

&lt;213&gt; B. fragilis

&lt;400&gt; 4937

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cgtaacattg	ccgccactat	ctcagagatc	tatcaggcta	cagaattggg	aaaaatgggt	600
gattcctgcg	ggcaggaaga	tagctttttac	cggaccgacc	gtttggatta	cattttccgt	660
tatcgacgaa	atcataccat	tgcagctctt	ctttctattg	tatatcaact	ggatgccatt	720
cgtaccgtgc	atcggacagc	agtgacgaaa	ggttggtgct	ttccttcttt	tactaatgat	780
agcaagttta	tgtctgtgaa	tttctatcat	ccgcaagtga	aagatgctgt	agcgaacgat	840
tgggagatgg	agaatgggaa	tatctgcata	tttaccgggt	cgaatatggc	gggtaaatcc	900
acgactttga	aggcaatagc	atctgctgta	tggttggctc	atgccggatt	tccggtaccg	960
gcttcctcga	tggtttgtcc	tatgttcgat	ggtattttta	cttctatcaa	tctgccggat	1020
tctctgagag	atggtcgcag	ctattttctat	gcggaagtat	tgagagtaaa	agaggtgctg	1080
gaacagatta	acaaggggca	tactgttttt	gtacttttcg	atgaattggt	taggggaacc	1140
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tatagccgtt	ttttgatata	tacacatata	atagaattgg	cccgtaaatt	ggatggagat	1260
gacgcctggt	gtttttatta	tttagaatct	gcgatagtgg	atgacgagtt	gatatgtaac	1320
cataaagtga	agccgggtat	ttcagagtca	agagttggat	attggattgt	gaagaaagaa	1380
cttgccggat	ttgagaaata	a				1401

&lt;210&gt; 4938

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4938

attatgaatc	aagagatact	aaacagatat	cttacaggag	atgccagtgc	ggaagagaag	60
caaattggtag	tccgatggct	ggatgccgat	ccacaacaca	tgcgtgagta	tcttgccctg	120
agaaagttgc	acgacatcac	cctttggcaa	gagaaaccgg	cagcaaccgg	tgataaaaag	180
aaacggctga	cacttcctta	catcagggag	ttcattaaaa	tagccgctat	tttcctcata	240
gcagttacct	ctgtttattt	cctggctccg	gagagaggaa	aagatacacc	tgatttgaaa	300
gcaatacatg	tcccatcagg	acaacgggca	gaattaacat	taggtgacgg	aaccgcagta	360
tgccctgaatt	caaatacgac	acttacgttt	cccgaacct	tcgaccggaa	agagcgtaga	420
gtgacactgg	acggtgaagg	ttattttccag	gtggcaaaaa	atgataagaa	acccttcata	480
gtacaaagcca	agaatatga	agtaagagta	ttgggtaccg	aatttaattgt	gatgatgtat	540
aaagatcagg	actttttcga	aacagctctg	ctgaaaggct	cggtagaagt	aaacgaaacc	600
actactggta	ggaaagtaaa	actgcaacct	aacgaaccgg	tattcggcaa	agccggtcaa	660
ctccggaaaag	agagtatcag	cgagtggaa	cgggcattat	ggatgcaagg	aatcctttat	720
ttcgacaata	cgcgcagtgga	cgaaattatc	cgccagttag	gtctatacta	tgatgtaaaa	780
ttcatttttg	aaaaagagtc	cctggcgaat	gtacggttca	ccggaaaatt	tcgtatcaga	840
gacggtgtag	aacacgtatt	aaaggtgctt	caactgaaat	gtaaattcac	ctatcaaccg	900
gatgaagaca	gtaataccat	tactataaat	taa			933

&lt;210&gt; 4939

&lt;211&gt; 3258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4939

gtattaatta	acacagtgtg	caaattgtatg	aaaaacactc	tgataaaaac	aagtaaaatc	60
gtaaaataaat	caatttcaca	tactatgaaa	atgatagttt	tattcctttt	cgttttcata	120
tcggggagtat	tcgccggcaa	tgogaactct	caggaaacaa	aggtatctat	ctcgaaaaac	180
aataaaaccga	tacggggaaat	cctgggcgaa	atcgaacgcc	agacagatta	cctgttcgta	240

tattccgaga	aggaggtaga	tgtaaatcaa	cgcaaaaccg	tcaatgtaag	tcagcaacgg	300
gtagctgatg	tactttcttc	tctattccgt	agcaccaatg	taggttatgc	catggaagga	360
cacaacatca	tgctgatggc	aaaaacaact	caaacagacg	ctgcacagca	aaaacgtcat	420
attacaggag	tggtgaaaga	catcaaagga	gaaactatca	tcggagccaa	catcatgata	480
aagggcacag	gtacaggtgt	gagtactaat	atcgacggag	aattttccat	cgaagcagct	540
gccggtgacg	aactgattgt	ttctttcatc	ggatacctga	cacaaactat	caaaatcgat	600
tcacaaaaaa	cgctcaatat	caaattactg	gaagacacta	aaacactgga	agaagttgtc	660
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gccgataaat	tgaaagacgt	aaacacactg	gaagtaggaa	gtatgctcca	gggaaaagta	780
tccggcgat	atgtctcagg	ttcatccggc	gaaccggggc	atgccagcaa	aatccgtatt	840
cgtggtaaa	gcacactgaa	ctcgtctgtc	tctccacttt	gggtagtcga	cggtgtgatt	900
gtaggtgagg	atccgggact	gaacccgaac	gagatagaca	atatcagtgt	gctgaaagat	960
ggttcggcta	ccgcattgta	cggttcgcgt	gccgccaacg	gtgttattgt	agtaaccacc	1020
aaaagaggcg	aatatgatgc	caacaaatat	agtgtatcga	tcaatgccgg	tgtatcctta	1080
ctatcgaccg	ggcgccttga	gatgatgaat	tcacaagaac	tttatgacta	tcagaaatcc	1140
tggaacaatc	agtcgtggtt	cacagaagaa	cttctgaaac	acaacacaga	ctggttttaa	1200
gaagcttcca	aaccgggatt	atataccaac	gcaaacatta	cctataccgg	aagcagcggg	1260
cgtatgcgtt	cctttgttat	ggcagactac	taccgcgaag	agggagccat	taaggacttt	1320
acattggacc	gcttcacttt	ccgttccaac	aatgatgtga	agtttacaga	ccgcttcacc	1380
atgtcaacca	agatttcagg	ttcgtctctc	cgtacagaca	gtcagcaacg	cagcgtgtac	1440
aacacttata	tctacctccc	ttgggatttc	ccttacaatg	aagacggttc	tatccgctcg	1500
ggacaagaac	aagactggag	aggacgtgac	ggaatcaacg	acatgtatga	cctgcaatgg	1560
aactggagcc	gttcgaaaaa	actgacgggt	gacggaacca	ttaatttcaa	ttatcagatt	1620
acggattggt	tcgctttcga	gtcaaacaac	tatatcgcgt	atatcagtaa	ccgctccgag	1680
agctacacgg	acaagcggtt	gcgttcgggg	caatcggaca	aagggtcggt	atccaactct	1740
aattcactac	tgaccaagca	attcaccaac	caaatgatac	gttttgagaa	atcattcggc	1800
aaacacaaag	tcaacgcact	gggagcttac	gaatataccc	gccactttta	cgaatcgact	1860
tccgccgaag	gacgagggcat	acagcccggc	agagagattc	tggacgtaac	aaccgggtatt	1920
aaatccatcg	gtggatacaa	agacgccatt	gccacccaat	cggcactggt	caatgccaac	1980
tacgactatg	ataaccgcta	catgggacaa	gtatcgtatc	gcatggacga	atcatcttgt	2040
ttcggtaaaa	acaatcgtat	gggacacttc	ttcacagtca	gtggcggctg	gaatatccag	2100
aacgaaactt	ttttcgaatc	tcttcgtgag	tctgtcaacc	aactaaaagt	gagagtcagt	2160
tatggtttctc	tgggtaaacac	tcccggagca	tactacggac	actacccgct	ctattcttca	2220
atgatgtata	atgacgaagt	agcttacttc	ccttcacaga	tggggaatgc	cgacctgtcg	2280
tggggagaaat	gttacaccac	caatatcggg	atcgacgcac	ggttcttcga	tcgcttcgga	2340
gtcaccatcg	acctgtacaa	taaaaacacc	tccgacttac	tgtactatgc	cccgtacccc	2400
aatatatcag	gctacaccgg	acaatataaa	aatgtaggtg	ccatcaataa	taaaggcctc	2460
gaaatcagtc	ttaatgcaga	tgatcatccg	acctcaaaat	tccagtggac	cagtgacttc	2520
aacattggat	tcaaccgaaa	cggggttacc	gaactttatg	gaaggaaacc	ggaactgaag	2580
ggattgaaac	gcctggaaga	aagacgggat	atggatgaat	ggtatctgaa	agaatgggcc	2640
gggtgatgac	ctgctaaccg	ttctccattg	tggatatccc	cccgatggga	atggccaaaag	2700
gcacaactac	ccgactctta	caataaagcc	gaccgtgtat	attgtggttc	tgccgcccga	2760
aagtttaccg	gtggatggat	gaattcattt	agctataaag	gttttacact	gactgccaac	2820
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ggtgcttatg	ccgactacaa	ttcaatgaaa	ctgaaaagcg	gctggaaaacg	ctgggaaaaa	2940
gaaggagaca	tcgccacgca	tccgaaagcc	attaacggag	gtaacaaaaa	ctctaacaaa	3000
tcgtcttcac	gctatttgga	gaaaggcaat	tacttcagct	tgcgcaactt	atcactgggg	3060
tattccatac	cggagaagtt	atgcgggaaa	ctgggcttgc	aacgggtcaa	cgtctcttgc	3120
agtgtgata	atctattcac	gcttacccca	ttctcggggg	tatctcccca	attgtcggac	3180
agcagtaccg	acggttatgc	aggtactatc	tatccgttga	gcagaagaat	cgtgctcggc	3240
cttaatgttt	cattctaa					3258

&lt;210&gt; 4940

&lt;211&gt; 1032

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4940

tttgtgtgca	ataaacattt	aatattaact	aaccctttaa	ataagagtat	catgaattca	60
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agcatggaga	agccctatgt	ggtgggtatt	gacattggcg	gaacaaacac	tgtctttgga	120
attggtgacg	cgcgcggaac	tattatagca	agcgggtgcag	tgaaaactca	agtatatcct	180
acagtagaag	aatatgcaga	tgaagtatgc	aaaaatcttc	tgccgttgat	tatcgcaaat	240
ggcgggggtg	ataaaaataaa	gggtatcggc	attggcgctc	ctaattggga	ctattatacc	300
ggaaccattg	aatttgctcc	taacttgcct	tggaaagggtg	tattgccgtt	ggcttctatg	360
ttcgaagaac	gcttgggtat	accgactgcc	ttgacaaaacg	atgctaattgc	tgccgcagtg	420
ggcgaatga	cttacggagc	tgcccgcggt	atgaaagatt	ttatcatgat	tactctggga	480
acaggtgtcg	gtagtgggtat	cgttatcaac	ggacaggtgg	tttacgggtca	tgacgggtttt	540
gcaggcgaac	tcggtcacgt	gattgttcgt	cgtgacggac	gtatctgtgg	ttgcggacgc	600
aagggctgtc	tggaaactta	ctgctcggct	acaggtgtgg	cacgcactgc	acgcgaattc	660
ctcgtctcac	gtaccgatgc	cagcttggtg	cgtaatatcc	cggctgagag	tattgtatcg	720
aaagacgtat	acgatgcagc	cgtacaggga	gataaactgg	ctcaggagat	tttcgaattt	780
acaggttaata	ttctgggtga	agcattggca	gacgctattg	ctttctcgag	tccggaagct	840
attatcctgt	tcggtgggtt	ggcaaaatcg	ggtgattaca	ttatgaagcc	gattatgaaa	900
gccatggaga	ataaccttct	gaacattttac	aaaggtaaag	caaaattgct	cgtttctgag	960
ttgaaggact	ctgacgctgc	tgtgctgggt	gccagtgcat	tggtctggga	actgaaagac	1020
ttgagagact	aa					1032

&lt;210&gt; 4941

&lt;211&gt; 1107

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4941

aacaagatga	aaaagtatct	gaaaattaca	ttactggtag	tggtagccgc	catcttcatt	60
gggacattca	ttttcctgta	ccagaaatca	aagcctaaaa	caaccgtata	tgaaaccggt	120
accccgagga	ttgcggatct	ggaaaagact	acggttgcca	ccggcaaagt	agagccgcga	180
gacgaagtac	tcattaaacc	gcaaatatcg	ggtatcatat	ccgaagtata	caaagaggcc	240
gggcagacca	ttaagcaagg	tgaagtaatc	gctaaagtaa	aagtcattccc	ggaactggga	300
caattgaact	cagccgagag	ccgtgtacgt	gtggcagaga	tcagtaccgc	gcaagccgaa	360
acagatcatg	aacgtatcaa	gaagctttat	aacgacaagt	taatcagcag	agaagattac	420
gaaaaaagcg	aagtagaaat	aaagaaagca	cgtgaagaat	tgcaaactgc	aaaagatgca	480
ctggagatta	tcaaagaagg	tatcaccaaaa	aacagcgctt	ccttcagcag	tacgctgatt	540
cgttcgacca	tcgacggatt	gattctggac	gtaccgatca	aagtaggtaa	ctcggtaatc	600
atgagtaata	cgtttaatat	cggtacgact	attgccacag	tagccaatat	gaacgatctg	660
atcttcaaag	gcaagattga	cgaaacagaa	gtgggacgta	tccatgaagg	tatgccagtg	720
aaactgacta	tcggagcttt	gcaaaatctt	acattcgatg	ccgaactgga	atatatcttct	780
ccgaaagggtg	tagaagagaa	cggagccaat	cagttcgaaa	ttaaagcggc	cgttcatgca	840
ccgactctg	tacaaatccg	ttccggatat	tcgcgcaatg	cagaaatcgt	gcttcaacgt	900
gcgcaaaaaa	ttctggcagt	tcccgaaggc	attatcgaat	tcagtggcga	cagtacgttt	960
gtatgggttaa	tgaccgatag	tatacccgaa	cagaagtttg	aacgccgcca	gatcaaaacc	1020
ggcatgagtg	acggtatcaa	actggaaatc	aaggaagggtc	tgaccggaaa	ggaaaaagta	1080
agagcttctcg	aaaagaaaaga	caaataa				1107

&lt;210&gt; 4942

&lt;211&gt; 1353

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (249)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4942

ggaaaagtatg	aatcaccaac	aatgcataat	atgagaaata	aaatattgat	caacttattg	60
atactgaccg	gactgtcagc	ttacactgca	caggcacagg	aaggatggac	tttacgccgg	120
tgtatcgatt	atgccattga	gcataatata	aatgtgcaac	aaacggcaaa	ctcggccgaa	180
cagagtaaag	tggagggtgaa	taccgccaaa	tgggcacgct	taccaaacct	tagcggcagt	240

gcttcgcana	attggagttg	gggacgtaca	gcatcgccgg	tagataacac	ctataacgat	300
atcaacagcg	gtagcagtag	cttcagcctg	ggtacaaata	ttccgttatt	caccgggtctg	360
gaattaccga	accagtatgc	acttaccaaa	ctaaacctga	aagcagcaat	cgaagacctg	420
aataaagcaa	aagaagatth	ggcaatcaat	gtcacttccg	cttacctgca	agtgtctttt	480
aatcaagagt	taagcaaagt	ggcacaagt	caggtaggac	tcagcaaaga	acaactgagc	540
cgcatacac	gattgcatga	agtaggaaaa	gcttctcccg	ccgaagttgc	cgaagccaaa	600
gctcgcgttg	cacaagatga	gatgagtgcg	gtacaggctg	acaacaatta	ccgggttagct	660
ctactcgatt	taagtcaatt	gcttgaactt	ccgactccgg	agaactttct	acttgccaca	720
ccggatacgg	agttggaatt	ctctcccttt	acttcacccg	acgaaatcta	taaccaggcc	780
atgctctaca	aaccgggcat	caaagcagcc	gaatatcgtc	ttgaaggtag	cgaagaagaat	840
gtccgcatag	caaaaagcag	ttactatccg	caattgtcct	tctctgcagg	attaggtaca	900
aactttctata	cggtaaatgg	taacgcccgt	tcaaatthtg	gcaaccaaat	gaagaacaac	960
ctgaataaat	atgccggatt	cagtctgaac	atacctttat	tcaatcgctt	ggccactcgc	1020
aaccgtgtac	gcactgcgcg	cctgcaacaa	accaatctgg	cattgcaact	ggacaatacc	1080
aagaaggtag	tatataaaga	aatccaacaa	gcatggtaca	atgccatagc	tgccgagagc	1140
aagtttaagt	caagttagtc	ggcagtagaa	gccagccaag	agtccttccg	cctgatgagt	1200
gaaaagttcg	acaatggaaa	agcgacctcg	gtcagagtaca	atgaatccaa	actaaatctg	1260
actaaagcat	tgtccgaccg	gattcaggcc	aaatatgact	atctgttccg	tacaaagatt	1320
ctggactttt	acaaaggaca	gcccattgag	taa			1353

&lt;210&gt; 4943

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4943

acaacaatgg	atttaattaa	aattgcagaa	gaagcattcg	ctaccggaaa	acagcaccgg	60
agcttcaaag	caggagacac	tgtaacagta	gcatatcgta	ttatcgagg	taacaaagag	120
cgtgtacagt	tgtaccgcgg	tgttgttatt	aaaattgcag	gtcacggaga	aaagaaacgt	180
tttactgtac	gtaaaatgtc	aggaaccgta	ggcgtagaaa	gaattttccc	gatcgaatca	240
ccggctatcg	acagcattga	agtgaacaag	gttggttaaag	tacgtcgcgc	taaactgtac	300
tacctgcgtg	ctcttaccgg	caaaaaagct	agaatcaaag	aaaaaagagt	taacgggctaa	360

&lt;210&gt; 4944

&lt;211&gt; 349

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (329), (331), (333), (336)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4944

atccatagtt	tacatattga	aatgggaaaa	tatcgcacga	aagggagcat	tgctctcatc	60
attacaggaa	gtgtcctgat	cctcgtactc	gcaggtttat	atctgggacg	taacggaatt	120
ctctgccgga	cggccgacaa	acgaatacta	tatgccgaac	aaaaatacgg	attatctatc	180
tgctatgagg	acctgcgaat	gaaaggatta	aacgaaatcg	aactgaaaaa	tctctctata	240
gttccccgca	accgggatac	ccttctcacc	ctgcatactt	tgaacatgca	cctcaacttt	300
tggaaattga	ttcgggggaag	tcttcaccng	nantgncaac	agcgctcat		349

&lt;210&gt; 4945

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4945

gtacttaagg	atatgaaaca	aaattacgca	aagattatth	caggattcat	tctggcgggg	60
ttgctgacat	ttagttcttg	tcagtcgacg	catgagatgg	caaaaaccga	ttaccagatt	120

gccaaagtag	aggggaaggat	gattgacatt	gacgccaaat	gggacaccca	tcccgatgca	180
gatgccgtgg	caatattaaa	gccttataaa	gaaaaaatag	acaatatgat	gtatgaggtg	240
attggcagca	gcgagcagaa	gatggacaaa	ggacatcccc	agagcttgct	ttctaattctt	300
gtagcgggaag	tattgcgtca	ggctgcaacc	aaggtgcagg	acaagccggc	agacatggga	360
ctggtgaata	tgggaggatt	gcgtaaatatt	ttgcctgccg	gagatattac	ggtagggaacg	420
gtatatgaga	tattgccatt	cgaaaattcg	ctttgtgtaa	tgaagatgaa	aggaacacac	480
ctgaaagcat	tgctcacaag	cattgcatcg	ttgaaaggag	aaggggtgag	cggtatccgg	540
atggaaatta	ccaaggatgg	aaaattactg	aatgctacgg	tgggcggcca	gccgatcgat	600
gacaataagc	tgtataccgt	ggcgacaatc	gattatctgg	ctgacggtaa	tggaaagtatg	660
gaggctttct	tgcaggctga	tgatcgtgtg	tgtcccagg	gagccacgtt	acgcgggctt	720
tttcttgatt	acgtgagaca	gcagactgct	gccggaaaga	agatcacttc	ggcactggat	780
ggcagaatca	ctgtgaaata	a				801

&lt;210&gt; 4946

&lt;211&gt; 2175

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4946

agtacaatgc	taaaaagaac	atztatatta	atcggccttg	tcttgagttt	ttgttctactg	60
ccagcgcaag	aactgattca	gattacgaca	cgcaacacag	cacttggtttt	cagggttgcc	120
aatcaatcac	taagacaagt	ttattatggc	ccacgcctgg	cagacaccga	tgtattacag	180
aaacagggca	ataactttcc	ggcatattcg	acttatggaa	tgggagaaca	aaacgaagtg	240
gcccttcacg	cagtacatgc	agacggtaat	acctctacac	tactgaactt	tgaaaacgtg	300
aaacaagagt	ctccggaaac	cggcataaca	ctgactacga	tttctactgaa	agaccgccta	360
tatccttttc	aagtgaact	tttctataag	gcatacgaag	agagcgacct	tatagaacaa	420
tggactatat	atcagcatac	tgaagagaaa	ccggtaaac	tttaccagtt	tgcttccgca	480
cagctctcct	ttaaatcttc	ctcctaccga	ctcactcact	ttgccgggtga	ctgggcccga	540
gaatgcaaca	tgagtgaagt	agaactgaca	gaaggcatca	aagtgataga	ttccaaatta	600
ggaacccgtg	ccacattctt	tgctcatccc	atgtgtctgc	tatccctgaa	cggacggatg	660
actgaagaca	atggagaagt	gatagggatg	gctctggcat	ggcctgcca	ctttaagttg	720
gaatttgaaa	aaaacaacaa	tcaggaactc	cgtgtacttg	ccggaatgaa	tccgtacgca	780
tcacactaca	aacttaaaaa	aggcgatgta	ttccaaactc	cttcgttcct	ctacacatac	840
agtacaaaag	gaaacggaca	ggtcagtcgt	aatttccacc	gttgggcacg	taaatatggt	900
ttacgccacg	gagaaaaattc	acgttatacc	ctgatgaaca	actgggaagc	cacttacttc	960
aactttaacg	aacccaaact	gaaatcaatt	atagaagatg	ctgcagggat	gggcttcgaa	1020
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&lt;210&gt; 4947

&lt;211&gt; 3087



&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4947

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&lt;210&gt; 4948

&lt;211&gt; 609

<212> DNA  
<213> B.fragilis

<400> 4948

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gaacctgatt	ttataggtga	ggtgttagtg	ttaaatccgg	ataacagcac	gactccgctg	180
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<210> 4949

<211> 1617

<212> DNA

<213> B.fragilis

<400> 4949

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cgtttttacct	ttatcaccca	ccatctggta	cgtatggaat	acgcacagca	gggaaagtcc	300
ctgaacgact	ctaccctctt	cgctgtagac	cgtaccccca	gatgtaccga	agtaaaagta	360
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<210> 4950

<211> 1311

<212> DNA

<213> B.fragilis

<400> 4950

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aaggacctgg	atgccaccat	ggagcacttc	agcgacaaca	tcacagtggt	aggtgccagc	360
caatggcaaa	gtaatgtaaa	cctgagttac	ggacaggagt	acgttaacct	ttcactggaa	420
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&lt;210&gt; 4951

&lt;211&gt; 843

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4951

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ccgatgaca	aacaggcagt	tatgaaactg	aatgccggag	gccatgttct	caatgatgga	840
taa						843

&lt;210&gt; 4952

&lt;211&gt; 552

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4952

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aaaatacaat	aa					552

<210> 4953  
 <211> 351  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (274)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 tggctctggg gcgtagaagc agaaaaggca atgcaccgga tttaccacct acgctctcaa 180  
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 cggggaatgt acattgaata tccggacgaa gaanaagcct atcaatatcc gggacaattt 300  
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<210> 4954  
 <211> 876  
 <212> DNA  
 <213> B.fragilis

<400> 4954  
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 attctctctg agaccagtga tgtgcatagc cgcttggaac ctatcaatca ggaagggtgac 180  
 cggaattatg ataaaggcgg attcgtacgt cgtgccacat ttgtgaagga gttccgcaaa 240  
 gagcatcctg atatgttatt gttcgattgc ggagacattt cgcaggggac accttattat 300  
 aatatgttcc aggggtgaagt cgaagtgaag atgatgaacg aaatgaagta tgatgccatg 360  
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 gtgaaaccgt atgtcgtctt tgaaagagac ggtgtcaaga tcggagtttt gggattgggt 540  
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 gtttgtcttt ctcatctggg tgtgcagtat gacgagaatc agttgatccc taaaacacgt 720  
 aatatcgatg ttgttctcgg aggccattcg catacattca tgaaagggtc caagactctc 780  
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 gggcagatgg acttaacact tgaaaaaaag aaataa 876

<210> 4955  
 <211> 345  
 <212> DNA  
 <213> B.fragilis

<400> 4955  
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 gtgacagatg ttgatggcaa ttacacttta tctaattgtt ctgcagacgg agttctggag 240  
 ttttcttaca tcggcatgaa gaaacaggat gtaaaagtaa gcggtaaaac tgttattaat 300  
 gttgtgcttc aagaagatac ccagatactg gacgaagttag gctag 345

<210> 4956  
 <211> 357  
 <212> DNA  
 <213> B.fragilis

<400> 4956

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&lt;210&gt; 4957

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4957

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ggaaatctgg	aacgctactt	tgatgtgagg	gtaaaagaga	agaccaatac	ggaagacctg	360
catctgggtc	atatcatagc	tccaagga	gctattcagg	gagaaaatat	catcttccgt	420
ggcgaaggac	acgacgaaca	atggcgctgg	gagttcggag	agacggggat	gattgattcc	480
cgtgaaaaaa	cggctcttta	tgcttatacc	gaaccgggag	agtacgaagt	attgcttaat	540
acggagaata	ccgggtatcc	catcagacac	cgataaaca	ttctgcccta	ctattcggag	600
aatgattcta	ccgatgtaat	ggtgctcatc	ggtttagaca	tcaaagagaa	gttcagagac	660
attgcagacg	gtaaaccctt	taatgtaaac	tacaactatg	tcgtggacaa	gtattttaat	720
aataaccgga	acacgctggt	tggttatcaac	aacaataaat	ataacgactt	ttattcttat	780
tgccaaggac	tgcaccatat	cggcagaaaa	gaaacgatta	tccagaatgt	catcgtagag	840
acggaggatg	aagagagcgg	atacatcacc	caactaacgg	ttatgcaaat	cgaaaaaag	900
aatga						906

&lt;210&gt; 4958

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4958

acaggaaaca	agccaatgat	aaagactgta	ataaccaaat	tgtatattgc	tttttgtctt	60
atttgccttt	ttgcatgtga	aaaacaaaaa	gaagaatttc	ccgatatccg	tataggaaaa	120
gaaggagttg	ttgatgagtt	gtcgttgaat	aaacagacag	agaaaagact	tcttttgtca	180
ggtggaaacg	ggaaatatat	agttaatgtg	gagaacgcac	aaatagccac	tgctgatata	240
agtatggata	cccttaaagt	aaaaggttgg	ttggaagggtg	aaacgtttgc	taccatcatt	300
tctcatgata	agcgcataag	gttgaagatc	aacgtagtct	ttccggagct	cggaataagt	360
cattccgtag	tgcagcttct	tccccgattt	agaagtaaat	tcataagtat	ttccggagga	420
ggagaattga	ctaagctgga	agaggacgat	cccgcagata	ttatggatat	gaaatgggac	480
ggttctacgg	ggatgctgga	gatatatccc	aaatatgagg	gagaagcccc	ggttatcgct	540
atttcagaag	acgcaaaaga	gaagaagggtt	attcatatta	aagtgagacc	ggaaggaaaa	600
ctggaaattc	cggggtggta	tagcacciaac	tcaagttcat	actatctgat	ccaaaataat	660
aacatggtag	tcaaaagaaa	aggagtaggt	acatggattg	taaacagtgc	cgcctcttat	720
ggtgggggag	tgatgtataa	tagttcttat	ataaaaaatag	ctcctatcat	gaatcccgtg	780
cagggtgact	ctatcgattt	aaatatactt	cgccatggat	ccttgaaacc	gcagataaca	840
gaaggtatac	ataggctgta	tgtagaagaa	gtgcgtgagt	cggaagtcat	gttacgggga	900
agaggtttca	aatttttgct	cccttatgaa	aagtga			936

&lt;210&gt; 4959

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4959

cggttatgca	aatcgaaaaa	aagaaatgaa	atgagaaagt	tatttgtcct	attgatttct	60
atcgctcggtt	tatcggtcttg	tgctcccgtg	caccgcttca	ctcaactgcg	gaagcttcct	120
cgtgaatatt	ctgacaatta	ttccatagag	gggataaagg	caccagaag	cgctgcccac	180
cgcaaaccgt	ggattgtcta	ttcggacagg	gtggagaatg	ccgcctatgt	caatccggga	240
ggcagggtaa	agtctgccga	ggtaggatta	ctggatacgt	tcttagttat	caagaccaa	300
ggagattatt	tgcggttgat	taaatataac	cccacaaata	tcaagcacia	ccgtatgacc	360
caacgcacaaa	aggcggaata	tgtgggctgg	atgcaccgct	ccgactgat	actttcacct	420
tcttccatta	ccgatgtaca	gtcgggactg	catgacaaat	tgttgactgc	gattaccgac	480
accacggcaa	tcatgcaatc	cgcaacttat	tttacaaccg	ccgattcatt	gaaagtgttc	540
ggcgtatccg	aactacagaa	tcaaaccggc	gtggtgggta	tccacgctat	tatatatgcg	600
ctcaagcatt	ctgttgacaa	acgcagtgtg	ttggtatcga	aaactccctc	tctctctgcc	660
gataaaatcg	gtgagcaggt	gatcggatgg	gttcccgcgtg	tcatgctcca	agaaatcgga	720
catcaggtgt	tcacaggaac	ggcggtttcc	agagtgccga	ctttgcaaaa	gacgctgaaa	780
tatgctccta	tgatatatcc	ttatcatacc	gattccacct	gctcgttcgt	cagcggacaa	840
ttataa						846

&lt;210&gt; 4960

&lt;211&gt; 1557

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4960

ccggttattg	acaagaagga	caaccacgtg	ttcaacatca	acggaaagag	aatctcttat	60
accggtggaa	atcaaatcaa	gcaagaattg	aagcgaataa	atatcctgtt	cgcaatggaa	120
cagtcttccc	ggctaccgga	acaatacccg	atgctgttga	atgccataca	gaatctggga	180
ccgttttttg	ccggttcggg	tgaatcgttc	tcctatcaat	tcggagcggc	ggtagctacc	240
ccccggggca	tggagacaat	tcctctgact	gctgactacg	agatacttat	agaccgattg	300
gtaaaaatgg	cgtcatatgt	agctgacact	gaaaatactc	ctttgcctgc	atggaaggca	360
atgagaagtg	cattggaact	tatcggcaat	acacctgaag	cggttaatct	gattatatca	420
gtcggtgaaa	cgggagaaca	gcaagagaat	gctccctctt	ccattgtgaa	aaccctgaat	480
gaaaagaact	gtcgcctgct	cggttggcaa	ctgtacgcct	cgaacgacga	taagtacaat	540
aactatgtgc	ttcaactttc	aaacatgatt	gaacattacg	ccgagtaccg	cactaaaaac	600
aagcgggaata	tgattctgta	tgccgaccag	ttttgccgca	gcaacctgct	gcgggaagca	660
ggcccgaatt	ttctcatgct	cgactatccc	tatgccagca	tgacacaagg	cggtttcctg	720
tttccggaga	aagggtgaaac	cctgccaatg	gaattgtttg	ccggagcggg	ggattccatc	780
gtaacgcaga	taaaagcggg	tcaccaactg	ctctctgaaa	gcatagaccg	tgcatttgcc	840
acggttggca	atggttaaaga	ccgttttagac	agtcttctga	ttgcaacctc	tcactctgct	900
caaggggtaa	aaccgaataa	ggagttttaa	aaaatatttg	gtgatgttgc	tccgatattg	960
tataggaaaa	cagaaagaat	taccgttccg	gacagtttga	tgcgctatta	cctgctactc	1020
tccgaccggg	aactgaaaca	gacaatagaa	cgcttggaaa	cactctgtgc	catagaagtg	1080
gatgtgaagg	acatgaataa	gccaaagaaa	ggtaaagtta	aacagttgtg	ccgctattta	1140
agggaaaagg	tacgccccga	taaggtagaa	actctcggcg	catcaccgcg	aaatcccgaa	1200
agcaaaagcag	atacgggtgta	tgtatctacc	ggaaaaatac	gccgccacct	ttatcgcttt	1260
tatatgtcag	aactgcgcaa	ctgccggatc	tgcaaaaata	agcgaagga	aatcaggcga	1320
tattctcttt	cttatgcaca	cagtcagata	tttgaggttc	cgccaacag	ccctgtgctt	1380
gatgacataa	cgggtgaagg	gctcaaaaag	aaaaaacagt	taaccgacaa	agagttggac	1440
ggacttattc	aatattttta	agagaggaaa	gaaaatatgg	ctaagaaata	cggagaagaa	1500
aaaataacga	tgggaaggaca	aagctattac	tacatagctt	cagaactgtt	accgtag	1557

&lt;210&gt; 4961

&lt;211&gt; 540

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4961

aataggaaag	atatgagcat	aaccctataa	aataaaaagca	gcaaaaccgt	tagcgagcgt	60
gaacgccttta	tccgatttgt	atatgtgctt	accctgctta	ttgttatcac	aggagcctgt	120
ggattttatc	ttttcaagta	tgcagggaca	cgccacatct	tctccaataa	aataatggtc	180
attaaaaaga	tggagcggga	aaaggaattt	caaaatatac	aatcagtaca	gattgtgagc	240

gcagataccc	tatttttcacg	tattgaacag	tttgagcccg	gcgtaaatgc	ctcttatgag	300
gaaaatgata	tcaagttcct	gataaacgac	cttgccaaac	aatgggagaa	aaacagcttt	360
gacaagcgca	ataagatgtt	ctggcatctc	gcttcgggtat	atgaaatgtg	gtttgccgac	420
aagaaagaac	tatggagcaa	acaggataac	ataataaagt	tcaagaaaaa	tctggaggag	480
tgcgaaagtcg	gactccagaa	gaaggaaggg	gaacttaaaa	ataaaggagg	caagccatga	540

&lt;210&gt; 4962

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4962

tatggggatt	gcgcggaccc	ttccagcccc	gtgggtggaag	acatgggcag	taacgaccgg	60
ctgaatcagg	tgggtgctcca	aaaagttatc	agtacacgca	agatggaact	tatcgaggaa	120
ctgcaaataa	tggatagtaa	ggatgtactt	ctgtacaaaa	aactggcttc	gcaaatcaac	180
gtgtttctgg	acaccaaaaga	agccatacgt	aaagcggtta	ttgaagaaag	ccttgtgaga	240
aaagacctga	tcgggtgcat	tcaggacaat	aaacaggcta	cccgaagct	gacattggga	300
aacattattg	tagaaaaagta	a				321

&lt;210&gt; 4963

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4963

cgaaatagac	tggcacttcc	gccccgcgtg	aagacggaaa	gacgtccgga	gagtacaggt	60
gtgtatgcac	ttaaaatatg	gcttaacgga	ggatctgttt	tcttggctca	acccgtatcg	120
gtaaaagcag	gaaaacaata	tacactctct	ttttggaaca	aaggaagtgt	gggaaatcgt	180
gaaatagtag	taactctgtt	ttggatgat	aacgggagta	taaaaagcag	agaaaaaata	240
ctttctataa	gaacgggtaa	agatgagtgg	agaagagtgg	aaagtactgt	aacaataccg	300
gagaatatcc	atagtatggg	gatggggata	aggacacaga	gctatcaggg	ctatatgctg	360
atcgatgata	tgctactggt	actcaaagag	agcggggccg	acatatctgc	cgttccggaa	420
gctcccgata	atttaagaat	gaaagcatat	cagaatgaaa	tggagatttg	ctggaacaag	480
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agagcgggta	agggtaagga	gttctcgcca	tatgccgaac	gaagaggtgc	gacagaaaga	660
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aaggatatctt	ataaattgga	cggagtaact	attgaaccca	aagataatac	tttagagttt	840
ccggagttcg	aaggatttta	taaacgattt	cgcttggaag	tttatattga	tgagggagaa	900
ggtcgtgaat	gggagattct	gtatcctcat	ttgggcgtaa	aaagaaatga	aaaatag	957

&lt;210&gt; 4964

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4964

gtgatgttac	gctgctggtt	cataaattca	ataacacagt	ctgccagaca	gaaaactgta	60
tccttttcta	tctttattcg	cacaagaata	ttgattccaa	aattttattgt	tgccaaagaa	120
gaacgtaaga	aacatgtata	tagtttagtt	cttgtcacaa	tactgattaa	gtttttattgc	180
aaatacaaaa	cttaa					195

&lt;210&gt; 4965

&lt;211&gt; 1875

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4965

gggtcccat	ttctgagt	aatgaatata	caggatgccg	aacgaagttt	gagacgtgag	60
tttagtaaga	tttatgctgc	tattcctcaa	aaaacggtcc	atatagagtt	atcgttgggg	120
agaatccgta	ccatcatgat	caatgtcatg	ggtgaagtaa	aagtaccg	tatttatcgg	180
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tccgttgaag	cggatattgga	acgtttctca	aacaaggtcg	aaattcgtgg	cgctgtatat	660
cgtgcgggca	tatatcaatt	ggatgacagt	gtaacaggaa	ctgtcaggca	gttgattagc	720
aaagcgggaag	gacttcgggg	agatgctttt	cttaacaggg	ctttgttgag	acgccaacag	780
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gccgacctat	gtttgcagaa	gaatgatgtc	ctctacattc	ccagtgtgaa	agatattgag	900
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aaaaatacga	ctatacagga	tttgattgta	aaagcgggag	gattgccgga	atctgcttct	1020
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gttattggaa	agagttttac	ggttgagctt	gcaaaccgat	tgttgatagg	ggaggataaa	1140
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gacgaagata	tggctcttgcg	tgaaggagat	gtactattta	ttcccaaata	tgtcagtacg	1560
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gaaccaggat	gtgaaataat	agtaccaagc	aaagaaaata	ggaaaaagac	tgtgccgagg	1800
gacgttgcag	gaatgaatac	ttctattgcc	tctatcgctg	caatggtggc	tgccatggtc	1860
ggtatgataa	agtaa					1875

&lt;210&gt; 4966

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4966

aagaagtgcg	tgagtcggaa	gtcatgtttac	ggggaagagg	tttcaaattt	ttgctccctt	60
atgaaaagtg	aaatatttgt	gcgatttgtg	tcttgtatcg	caaaaaaagt	aagctgtctg	120
aaggatatga	tattaaaaaa	aacaaacgat	aaggagcat	tgatttttgc	tctgtttatt	180
ttattggcag	gaggcagcag	agcaagacaa	catatgaaag	atgatcatgt	cattcgtggt	240
aagcagggtg	ctgttttttg	gcgtaatata	tttactgcca	gaaatttatc	ttttgagcct	300
agcctggata	ttcctactcc	tgaaaaatat	gtaatacgtt	ctggagatga	attgataata	360
gacgtatggg	gtgcttctga	aatacagtca	gggaaataa			399

&lt;210&gt; 4967

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4967

tatacagagc	cccgatgtga	agacgcgggtg	tccgcctttc	tctattatag	aaaggggtat	60
gatatggggg	ctgattttta	tcaggctcgtt	atttggagtt	ttattgtttt	ggctgcttct	120
gaggctattt	atggcttgag	gcagctttat	ggttttactt	cttcccatca	ttctctgtat	180
tcctgaccg	gatctttttt	taatcccga	ccatattccg	gttatctggc	tatgatattt	240
cctctttgtc	tggatcaatg	gttacgatta	cggaaaagg	agaataagaa	ttggatggaa	300
tggacgggat	attatggggc	cgtggcagta	ttgtttctta	tactctgtgt	gcttctctgc	360



ggaatgagtc	gttcggcatg	ggtggctgct	cttatttcag	gtatttgggt	atatggagcg	420
cataaatcct	ggccggtacg	cttgaaaaga	gtgtggatgc	gcaaaaagac	aaaggtactg	480
gccgtcacct	ctgtgttatg	tatagtgtgtg	ttggtcggag	gagtctgttt	gtttaacctg	540
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gaagcttatt	ttgccgaacg	gagttattcg	cctcaggaag	aattggtggc	aggaagtccg	720
gaatatgctt	ttaatgaata	tttgcagata	gcactcgagt	gggggatacc	cgtattgctt	780
tgttgcttgg	cttttgcagg	attttgtcta	cagagagggtg	tggaaactgaa	acgttggggg	840
ccttgtggca	gggggatctc	tttgttggtta	ttcgcttttt	cttcttatcc	gatgcaattg	900
cctgcttttg	gtattgcatt	cctgatttta	ctgatggctt	gttttgcattg	a	951

&lt;210&gt; 4968

&lt;211&gt; 1527

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4968

gacctgtgt	tactctgtgg	tgaacccaaa	accattacaa	tgaaaaagat	atattcaata	60
ttactggctt	cggcactgac	cctttcttcc	tgtgccgatt	tcctcgatgt	agattcgcag	120
ggaaagctga	ccgaagatgt	cttcttcagc	gaagaagaag	gcgcgttgat	gagtattaac	180
gccatctata	cccaactccg	ggcgtgggac	atcatcggat	tctcatggtt	tgccatcacc	240
gagctacccg	gtgataactc	cgatacaggc	agcgaactgg	cggacggcag	tgtggcacgt	300
ctgaaccagt	tcaacgactt	tacttacgac	gcctctacct	ccgagatcaa	cggctggtgg	360
gaaggcaatt	ataaagctat	cgcttcacgc	aatgtggctc	tggacaatct	gggtgcggtg	420
aagaacgaag	aactccgggt	gaagtgtgtc	gcccaggccc	gttttttccg	gggattcttc	480
tacttcaatc	tcgtacgcgc	cttcgggtggg	gtgccttttg	tgaccaaggt	gttgcagccc	540
ggcgaataca	atcagccccg	tgcaaccgaa	gaggctgtct	atcaacagat	cattgaagac	600
ctgacctatg	cagccgagca	tctgcctacc	cgtcaggagt	gggggtgcgaa	agagtcggga	660
cgcgccacca	agggaaacagc	cgaaggattg	ctggccaagg	tatatctctt	ccgccaggac	720
tatgccaacg	tgaagaaata	caccgggtcag	gtgattgccc	gcggcgagta	tagcctgcac	780
cgggattatc	gcgacctgtt	caatccgaac	tcttactatt	cggacgaagt	gatgcttgcc	840
gaccaatacc	tttggggcga	atcgaccgaa	cgcaacctcg	agtcggaata	tgtgaaatgg	900
cagggatttc	gcggtgagat	gggctggggg	atgttctctc	cttccgaagc	tctcgaccaa	960
gcctatgaag	cgggagatcc	ccgacgcacg	gcaaccattt	tctacgatgg	agagacattg	1020
gagggaaagg	gcgagattca	tttcaagaaa	gaagtgccgc	cccggtgcaa	caaaaagacc	1080
atctggccta	ccggttactg	gaacgagaa	tcgtttgcca	aacagaattg	tcacctgatc	1140
ttcctgcgtt	atgccgatgt	actgctgatg	tatgccgagg	cctgcaatga	actgggcgaa	1200
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ccggcggata	tgacagtggg	attgcccag	attacggaaa	ccggtaaaga	gaagcttcgc	1320
gagatcatct	ggaacgaacg	ccgcatcgaa	ctggctttgg	agggacaccg	cttcttcgac	1380
ctgataccgtg	cggacaaggt	ggtgcggggc	tatgcggaga	agatgatgaa	ggcacacggg	1440
aagacaaact	tctcgatagc	aaaacatgca	acgttcttca	tcccgcagaa	gcaggtggat	1500
atctcgcagg	gagtcctcaa	aaactga				1527

&lt;210&gt; 4969

&lt;211&gt; 1719

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4969

gttactttta	cgtctcattt	taacgaaaag	tgtatgaaaa	agtttctgaa	tagacgaaat	60
ggtgtcctgt	tggcagcagt	gttggttgct	gtagcattct	ttagtttcaa	gagcgggtgac	120
gaccgtaact	tccagattgc	taaaaatctg	gataccttta	attctatcgt	caaagaactc	180
gatattgttt	acgtagatac	gcttgatccg	aataagacgg	tccgtgaagg	gatcgactat	240
atgttgtctt	cgctcgatcc	ctatacggaa	tactatccgg	aggacgatca	ggccgaactg	300
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ctgaaacggt	cgatagatgc	cgaaccggtt	cgaggaactc	ctgcagctaa	ggtcggattg	420
aaggccgggtg	atatactgat	ggagattgac	ggaaaagatt	tggcggggaa	aaataaccag	480
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## 1970

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&lt;210&gt; 4970

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4970

taccgaataa	ccatgaaaca	gtttgtcctt	ttctttatca	gtctctttct	tttgggcgtg	60
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ctcaattacc	gtctacttcg	tccggaggtg	gaaaagacgg	gactgcgtct	tcaccacggg	180
gctggaagga	tccagcgggtg	gatgcgattt	caa			213

&lt;210&gt; 4971

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4971

cttgtaaaaa	ccggtgctgt	cggcagcaat	gcgggcaaaa	gagttgttca	ggcagaggta	60
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gaacatggag	aaaggatttc	tcctctcaac	tttaaagtcg	cttacggtag	atctcaccag	180
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cacctgcttc	agctcttcat	cgagacgtag				450

&lt;210&gt; 4972

&lt;211&gt; 2319

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4972

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&lt;210&gt; 4973

&lt;211&gt; 2847

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4973

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acggatttta	tgattgcgtt	caaatag				2847

&lt;210&gt; 4974

&lt;211&gt; 1083

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4974

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taa						1083

&lt;210&gt; 4975

&lt;211&gt; 2475

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4975

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&lt;210&gt; 4976

&lt;211&gt; 3030

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4976

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&lt;210&gt; 4977

&lt;211&gt; 1731

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4977

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tttaacgaaa	atggtgtatc	tttaccttcc	gaaactaaat	atgtagaata	a	1731

&lt;210&gt; 4978

&lt;211&gt; 1545

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (63), (68)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 4978

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tattataatc	tctaccggat	agcagaggat	aatcctgaaa	tggtatctta	tctggatgct	300
gatggctatc	tggaaacgtgc	ttatcggaca	gcgattgctt	attttgaagt	accctataat	360
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actatccggg	ctctgaggaat	gcctgaaggt	aaataactctg	tcatgaccga	tcacaaaatg	1440
ataacgacat	tcaatattga	ggcgggtaat	gcacatcatc	cttattatat	agaggtaccc	1500
gttacggaca	aacataccca	agtgaaactt	ttaaaaacaa	attag		1545

<210> 4979  
 <211> 1314  
 <212> DNA  
 <213> B.fragilis

<400> 4979  
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 ggggtaaatg caattatagt cgggtgtggaa cgtgggttca tcaccctga gcaaggcgct 300  
 gagcggctgc tcaaaatagt ggagttcctc aataaagccg atagctatca tggatatctg 360  
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 gcagagtggg actggttcac ccgtggagggt gaagatgtgc tttattggca ttggtcacc 600  
 aataacggat gggcgatgaa ccatcagctg aaaggcgaga acgagtgcc a tatcacttat 660  
 attctggcgg cttcttcgcc tacttatccg attcgtgaat cggtgtatca taagggtggtg 720  
 gccaaactcta ttacattcaa gaacggaaaa gaatattacg gcatccgctt gccctgggc 780  
 accgactttg gcggccctct cttctttaca cattattcct atctcggact cgatccgcgc 840  
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 gctatgcgtt atttctacga agaattgggc gaccgcctgt ggggagaata tggctttaag 1140  
 gatgccttca acctgacaga aaactgggtt gcttctctct atctcgccat cgatcaggga 1200  
 ccgattattg tgatgattga aaactatcgc tcaggcttga tatggaaact cttcatgagt 1260  
 catcccgatg tacagagagg attgaagaga ctgggggttcg gtcagaaga ataa 1314

<210> 4980  
 <211> 342  
 <212> DNA  
 <213> B.fragilis

<400> 4980  
 tcgcttcatg ctccacaact gccgtttcat tatggatata catgtaggga aaagtatgtg 60  
 caccacactt atcacccaac agcaatgagt cacactggct ataattacgg gcattatcag 120  
 ccttttcggc tacacggacc aacacacagt gacaggctga gttcttcatc cgtcaataac 180  
 tataaataca taggttataa ttacagtga tatacagatc cacgctcaag tagtggagag 240  
 ggggtagatg ggcgtatgcg tgaatatcaa actaccactg tacgtcgta ttctaatacat 300  
 atgatacgtt ttaacaagat gtttggttaa cattcaatat aa 342

<210> 4981  
 <211> 267  
 <212> DNA  
 <213> B.fragilis

<400> 4981  
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 gcccgtaatt atagccagtg tgactcattg ctggttgggtg ataagtgtgg tgcacatact 120  
 ttcccttaca tggatatcca taatgaaacg gcagttgtgg agcatgaagc gactaccagt 180  
 aagattagtg aggatcagat attttattgt aatcagggtg gtactaatgg ctttccaagg 240  
 gggctgcaaa gggccgctct atttattc 267

<210> 4982  
 <211> 234  
 <212> DNA  
 <213> B.fragilis



<400> 4982  
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 aaaagtggta ttccgcgtga ggaactgttc atcacgacca aagcatggat ttcagaaatg 120  
 ggttatgaac ggacattgag agcattagac acttcgctcg cccgtttggg attggattac 180  
 ctcgacgttt atattgaatg tttaccaaac atcttggtta aacgtatcat atga 234

<210> 4983  
 <211> 564  
 <212> DNA  
 <213> B.fragilis

<400> 4983  
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 gcgcttacta caattgatac attgagacgc gcaggtttag atgtcgaat agtatctgtt 120  
 actccggacg agattgtagt cggagcgcag gacgtatctg tgctttgcca taagaatttt 180  
 gaaaattgtg acttctttga tgctgagctg ctgtttttac ccggaggat gccgggagct 240  
 gccactttgg acaaacatga agggttgctg aaattaattc ttagttttgc agagaaaaac 300  
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 ggacgcagag ttacttgcta cccagtttc gaacaatata tggatggggc ggactgcaat 420  
 aacgaaccgg ttgtaagaga tggtaatatt attaccggga tgggaccggg agctgccatg 480  
 gagtttgcag tgactattgt ggatacattg ttgggcaaag aaaaagtga cgaactggta 540  
 gaggtatgt gcgtaagacg ttaa 564

<210> 4984  
 <211> 402  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (393)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 ttattaacta aaaatcaatt tatgaaaaaa gtccctttta ttttggtggg ctgtttgcta 120  
 tcgtttaatg tgatggcaca ggtaaaggcg atttcgggac tggtaacaga tgttactggg 180  
 gagcccgtaa ttggggcaag tggtgtagaa gtgggaacca ctaatggagt aattactgat 240  
 ttaaaccgga agttctcgtt aaagggtggc cctaattcac aattcttggg gagctatatt 300  
 ggctacaagc aacaaacaat taaagtggc tctgaaagca cttataatat tgtcttcacc 360  
 acgggggctgg aaggatcagc gctggccata cgntcagaaa ac 402

<210> 4985  
 <211> 213  
 <212> DNA  
 <213> B.fragilis

<400> 4985  
 tctccattgt ccgtaagcgt acgctttccg tcggctttat ccgcagggaa cggagacgtg 60  
 cgtgggttgt ggctgggtgc aggtctggta tcgttgggag cggccttcct gttggataag 120  
 aagtacgaga tgacttccga tttatatccg gtcaatgtgt gctataacgt aatgcttgcc 180  
 gtggagccgg aatgcccgga ctctcgatta tga 213

<210> 4986  
 <211> 1125  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 4986

gaagacatta	cgcataattcc	tgtgatagag	gactctgctt	ctgtatccgt	cactgctgat	60
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aaggagaaga	agaacaaaaa	gtttgacttc	agtgtgatcg	gtggcccgca	ttattccagt	180
gacaccaaac	tccgactggg	cttggtagcc	gccggactat	accgtaccga	cctgcccgat	240
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aattttgaga	aacccgagct	ttggcaagg	atggatgcc	gcacctcaa	tgctcagtgc	600
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aaaggccaga	ccggatttat	atttaatatc	aatgaagctt	tttaa		1125

&lt;210&gt; 4987

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4987

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caaaaaaaaa	ttttttcccc	agtctcccaa	agaaaaaagg	gaaaataaccg	agcccggaat	120
actcttttta	atgaaaaaag	gccctatatc	actctagaaa	aaaaatttgt	cgggtataag	180
gagatggaat	ggtctaaagc	cattaattag				210

&lt;210&gt; 4988

&lt;211&gt; 564

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4988

ggtttgga	aggccagacc	ggatttatat	ttaatatcaa	tgaagctttt	taatagtata	60
aaaaaatggt	tccgtaatca	ggagaatttg	ttctacctgt	tcctgtttgt	gctgatagt	120
cccaacgttg	tattgtgttt	caccgaacct	ttgccgcttg	tagccaagat	tgccaatgtc	180
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gggagcggcc	ttcctgttgg	ataa				564

&lt;210&gt; 4989

&lt;211&gt; 207

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4989

agagacttcg	aaggatttca	ctttcattgc	cgccgcacgc	atccggcaga	agaccgggag	60
atttacgtac	tggtagtggg	agagacttcc	cgtgcgctca	attggtcggt	gtacggttat	120
gatcgtgaga	caaatcccaa	actgtcggag	gtatccggcc	tgacggcttt	tacgaatgtg	180
cctgacccaa	tcgaatacaa	ctcataa				207

<210> 4990  
 <211> 402  
 <212> DNA  
 <213> B.fragilis

<400> 4990  
 cggcgttttac gaatgtgcct gacccaatcg aatacaactc ataagatggc cccaatgctc 60  
 atgtctgccg tttcggcgga gaatttcgat tccatctatc atcagaaagg aattattacc 120  
 gctttcaaag atgcagggtt caggacagct ttcttttcca atcagggtta caacacctct 180  
 tttatcgact gctttggaca cgaagccgat cactgtgact tcatcaagga ggatccgttg 240  
 actgccggtc agaatctttc ggatgattat ctggatgacc tggtgcaaga ggtacttgct 300  
 acgggaaccc gtaaacgggt ttcccggttg taccgctccg gtatacattt gaataatcgg 360  
 aatcgatgc tcgtccagac atctcttatt ctagccgaat ag 402

<210> 4991  
 <211> 324  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (132), (159), (161), (209), (249)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4991  
 ccttcgtcat cccaaaaacg tactttttct tgcactctgt ctgggctata ttccaagcga 60  
 cttttaccag gaattctttt ggtttcttta agaggaggta aacttaagtc cgaatttttc 120  
 tccccagcta anagaatcat agaaacctca tctctcgtnt ntatcataga aactccacct 180  
 attgcatatt ttaattttatt tatccatant gaaaaatcta tgtctggttg ggtattagtt 240  
 actgtgaana ttgaaattct atcttcatca aataatttta atgattcttc gaattttattt 300  
 gggcaatctt tggaagtaac ataa 324

<210> 4992  
 <211> 864  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (147), (187), (235), (237), (264)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4992  
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 gccttatcgg attatgttac ttccaaagat tgcccaaata aattcgaaga atcattaaaaa 120  
 ttatttgatg aagatagaat ttcaatnttc acagtaacta ataccccacc agacatagat 180  
 ttttcantat ggataaataa attaaaatat gcaatagggt gagtttctat gatanancga 240  
 ggagatgagg tttctatgat tctnttagct ggggagaaaa attcggactt aagtttacct 300  
 cctcttaaag aaacccaaaag aattcctggt aaaagtcgct tggaatatag cccagacaga 360  
 gtgcaagaaa aagtacgttt ttgggatgac gaaggttatt ggaagacaat aatcctttta 420  
 agatttgatg ttttaaccat ggagctagac gcaaaattca taaataaaga tatgggtaac 480  
 tctttttctg tattgacaga ttatattgag tcgtttttat cagaaaaagg ggagttcctg 540  
 tttccagaag ctgaaaatta tctaaatgaa caaaaggtaa aaatacaaaa ttattatcct 600  
 ttgtttgaga ttgctagaac gtgtttacat ctattgtctt atgtggaaaa gtacacagac 660  
 tcattatcgt cggaggagca tataacagta ttaggacatg aaccgataaa acctagattt 720  
 ttcaaaaaag ataaaaatgg tccaccaaaa tatgagttgc gaaaaagaga tgtatggaat 780  
 ttaaaagagg aaagggaata ttattcctct agcataataa catttaagtc ttcaccacgg 840  
 ggctggaagt atcaacgctg ttcc 864

<210> 4993  
 <211> 633  
 <212> DNA  
 <213> B.fragilis

<400> 4993  
 aacgcataca atatgaaaga acattcaata aaggcgggtca ggctaacccc cacagtgaaa 60  
 gcccggtctgg acacctttta aggaagcgac acgggtcagtg tctgtatcga tagaatgatt 120  
 acttttttttg aaatcacagg gttcaatccc cgctacgcat cccggaatcc gacggcactg 180  
 gtggaaaaga gaattgagga cgttgtcaga atcatcaagt cccaggaacg ggatatactc 240  
 aagcccgtag ttgagaaact ctccgccata aacaacaccc cgcaggagtc acccgattat 300  
 gcccggttga tgaacgagtt ccgggatctg aaagatgaaa accggaaatt gaaagaaagg 360  
 ctgcaggcgg atgatctcca tacccaagac gccgccgtat accatgacaa gctcaaacgc 420  
 ctgggcgacc tgctgaaata ccagcttgat ccggagaagt tttcaacgat aaaatacagc 480  
 gatgatgtaa gagtccccgt caacaccctg cagttgctta tcaagaagat caacgaggaa 540  
 tatgttcttg tcaaccgcat aggccgctat acactccgca cgtaccggat aacaaagata 600  
 aatgctcccc ggctggtaga ctactctgaa taa 633

<210> 4994  
 <211> 312  
 <212> DNA  
 <213> B.fragilis

<400> 4994  
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 aaatttgcct taaaaaaciaa aaggatgaaa ggattgacag aactgattgt ggcgggctgt 120  
 attttattcg gcctgcttct tacgccgctg gttttctcca tactggattt tataagcgga 180  
 gtgcgcaagg cccggcagcg cggtgaaagg atcacctcgg accggtatcg cagaagcgta 240  
 aagaaagggc cggttattaa acctgctgct gtttcacccg ggggtggaaga cagcggggtc 300  
 agaaagggtt ca 312

<210> 4995  
 <211> 831  
 <212> DNA  
 <213> B.fragilis

<400> 4995  
 aaatcgagat atatgaataa ttacgttaag acttccggtc ccagaccggt gggcaatccc 60  
 ggaaacggta tcaaccccaa agacgtgctc accctgatcg acatcgacga tctggtctat 120  
 ttccctcccc gtgacggtgc cggagtgggt ctggagggtg acatcggtgt aaagccgtcg 180  
 gcttactcca cggacttgta tttaactccc ggtactgtgg agctgagctc caacggtgaa 240  
 ggggaaaccg acgccaaggg cttcacccct tcggttaagg gaaaacatcc gggtaacaaa 300  
 caggagggtt gtgagttcaa gaccaactgg ctgggacgcc actgcatagc tatcctgcaa 360  
 tactgcaacg ggcaggatcc ggatatcctg ggttcccctt gcaacccttt ggaaatgtcg 420  
 gtcaattata ccggaataaa agacggcaac gcctcggagt tcaccttcac gcagataagc 480  
 aaaggagacg atatcggtat ctataaaggc accatcccac acgaagagcc ggtggcgact 540  
 gttcccgcac cggcaacgga aattcccctt aaaggccgcg ggcagtacca gctaagcgcc 600  
 ggagcggcca agatcgctac cattaagggg gccaaacacg gcgacctgtt caccctgctc 660  
 ggggtggtgt ccggcgtagc tcctacaatc gaaaaggcag gacagacagc cttcatgctg 720  
 aaaaacggaa agacgttcac cgcttcaccg ggcagccaga ttactttcaa ggccttcgat 780  
 accggcgggg gagccatcca gtgtgtggaa cagtcgagat tcgaggttta a 831

<210> 4996  
 <211> 186  
 <212> DNA  
 <213> B.fragilis

<400> 4996

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tcctggctga	aaatggggac	ccgttacctt	catccctgcg	accgcagtga	agcgggcatg	120
caggcacgga	agctggataa	cgagatcctc	tcttgtaata	accgtttaat	gaatttatat	180
gaataa						186

&lt;210&gt; 4997

&lt;211&gt; 1488

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4997

ctgttttttac	acgtgcaaac	acttgtaaag	aactccttcc	gaagaccgcg	ccgctcagaa	60
gccgaaaggc	aattgcctga	ggggcaaatg	gtgaaatatg	attacattaa	gggcaggcag	120
gcagaagggg	tgggaacgaa	aaaccgcttc	cggtatttcc	ggaagcggtc	aggcaaaaca	180
aggcaattgc	ctttcttatc	ccccgcgcag	gtcatcgagt	ccgggcatgt	agggaccgga	240
cctgctgcg	ccggacttgc	ccctgacggc	acgcctccag	gccccccgca	tcatcaggta	300
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attggactgt	ttgcggctca	tcaggttgac	aatccatccc	gtgcggttac	cgtcaccgct	600
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cgtgtcacgg	cgaagccccg	gacgcacccc	cactacagac	ttaagggaagt	cgtggagtct	1020
gagcgccccg	tcgagaaggc	gacggacgta	ctcaggcgta	aggatgtcga	tgttggtaaa	1080
actcgaggcg	ttgatgaagt	aggtctgccc	cttgccgcat	ttcagcagcc	ccgcctcgta	1140
ccaggcgatt	ttcttcttaa	gagccccgca	gtccgtccgt	gtccttccc	cttttaccag	1200
gcggacgcgc	aggctgttca	gctccgcagc	cgctggggcg	atacgcagga	tgcgctgagg	1260
atcgaccaga	cagacgtaac	ggaagtacca	gtcatactca	ccctccagca	cgtcgggcat	1320
gtcggtggtg	atggtcaccc	ccagaaaata	gtggctgcat	ccgtaacgta	tggcatcccc	1380
gcgcaatacg	ggcatggccc	ggttgacttt	attgtcgggg	gcgtatttgg	attcgtcgaa	1440
gaacaaatga	acgaccgatt	tgcccgcag	aagggagggg	tgggtctag		1488

&lt;210&gt; 4998

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4998

atztatatga	ataatatgga	gcgtttgccg	gcggacacct	ttttcctgga	ccttgaactc	60
cgccaggagg	tggagcgcag	ggcctccctg	ggatatgctc	cggacgatat	cgctctttat	120
ctggggctgg	atgcggagag	ttttgtcttt	gacgccggaa	gggaagggac	caccgtgtat	180
tcccttatgc	gccggggagc	attgaaggcc	ggggccggag	tggagctaaa	actgcaagaa	240
caggcacttt	caggggattt	ggatgccatg	gaactgctgg	agaaagtgcg	tggtcgcagg	300
agttttgaaa	taatagtga	gcaaatcgat	gaagacgaat	ttgggttaa		348

&lt;210&gt; 4999

&lt;211&gt; 1668

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 4999

cccaccgatg	atgtggagg	tcgttactcc	catatcatca	aggttcatca	ccgactggat	60
agacaccacc	aacctgggtg	tcgtcgcggg	ccggctgcca	agagtaccgt	catacaagcg	120
cgccggtcgg	ccgattgcgt	gtatgacatg	cccgggtgcg	cgttggcttt	cgtggggaat	180

acatatacca	acttaaggga	taatatcatg	cgggccgtca	agaccggctg	ggaactgatg	240
ggactctatg	aaggcgtgca	ctatgtatcg	tcctgccggc	caccggaatc	ctggcgccagg	300
cgttgccagcg	tgatcgtcga	cgattacaag	aacacggctc	ctttcttcaa	cggatgcatt	360
atctttctgg	gatccctaga	ccacccctcc	cttctggcgg	gcaaactcgg	cgttcatttg	420
ttcttcgacg	aatccaaata	cgccccgcag	aataaagtca	accgggccat	gcccgtattg	480
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gacctcagc	gcacctcgcg	tatcgcccag	gcggtcgagg	agctgaacag	cctgcgcgtc	660
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ctcgaactcc	acgacttctc	taagtctgta	gtggggatgc	gtccggggct	tcgccgtgac	900
acgcgcttct	atatcgcttt	cggggaaagg	cacaagtata	ccgacgggac	acggtacgga	960
gaacctgcac	aaagctgcct	ggacctgcgt	ttcctcaggc	gcggcgagcc	catcgacggc	1020
ggcgtggact	tcggtaacca	gctgtccctg	atagtaggac	agcaggacgg	accgctgtac	1080
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ttcctggcat	tcttccttaa	ccatgaggag	aaggaactga	acctgtatta	cgaccggggc	1200
ggcaataact	tcgagaagca	gaaagaggat	tacgcccaga	agctcaagca	ggccatcgag	1260
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aatatccgcc	aggatgaaga	gtacgatttc	atgcaggagc	tgatgacagg	cgacaacgac	1380
gccctcccca	ctttgcttgt	tgacgcgggtg	aactgtcgcg	agaccatctc	cagtatcgag	1440
aaggcgccctg	cgggtatccg	ttacaaggga	cagcagaaga	tcactataaa	ggtcaagaag	1500
tcggagaagc	tggagcccaa	gaaactgccc	atgctctcca	cgaacttctc	cgacgccttc	1560
aagtacctga	tgatgcgggg	ggcctggagg	cgtgccgtca	ggggcaagtc	cggccgcagc	1620
aggtcgggtc	cctacatgcc	cggactcgat	gacctgacgg	ggggataa		1668

&lt;210&gt; 5000

&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5000

tggtctgata	tcaagaccat	tccactttca	ggcaattgcc	ttgttttccc	tttacggggc	60
aaggcaattg	ccttttttca	gtcctttgta	ccgcagccgg	tatcggggat	ctttacggcg	120
tatcatttaa	aattcaattc	aatgaaagag	caaatacttt	cctattttaga	aggaccgcgt	180
gattactccc	aaggggtagc	cctgtatgag	cagttcggtc	ccaaccgcat	gctgaaggcc	240
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ccgtcgaagg	cggaaacagcc	tgtagcccc	gtccctgtca	ggatgtatgc	ggacgacctg	420
cttatcgccc	ttgcctcacg	cctgggggta	acggtggaaa	aactggtaag	cgacgatttt	480
gtaaaagagc	ggctctccca	aagtccggat	atggaacagg	tgccgggtct	gaaggaagaa	540
ctcgaaaaacg	cacaaaagcag	gtactcggag	gcaccggaaa	ccgtccgtaa	ggccatccgc	600
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acaccggatg	acgtggccac	cggggagact	tacctttggg	ctaaaacggc	cgtgggagac	780
ttcctggaga	accgccaat	gtgggaagag	ttggagtatt	ataagaataa	cggagaaatc	840
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gatctggaac	tgtccaagca	gctgggtaat	gccaaagtcta	acatatccaa	gggaaaaaac	960
gaactcgaac	aagcaccgga	tgaagaaaag	agggccaagg	ccatggagaa	gacccgcaaa	1020
tggacggaac	gcaaaaatct	gctggaggct	gaaatggaat	ccagaaaaaa	aaactga	1077

&lt;210&gt; 5001

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5001

agcaaactga	tgaagacgaa	tttgggttaag	ccctcgaggg	tgaattttga	aaaagcggat	60
atcgggcaga	tagggcgat	cctcgccacc	ggtgatctgg	actcgcttcc	cgaggagcag	120

cgggcgtatt	acgacctgat	ggagatggtg	cgcggaactgc	gtgcccgtat	gaggtataac	180
gggaaggtga	ttacaaaagc	cgggatcatc	cggctgctca	agtctgaggt	atacgggctt	240
tccgactgga	tggcacggca	ggtatacgcc	gactccgtca	atttcttcta	cagccaggaa	300
aacatacgtc	cgcaggcttt	tgccaacctc	tatgccgaaa	agctggagaa	gtgggcccgt	360
tccatgttcc	tgacggggcaa	gggggaggaa	gcctcccga	tactcgagcg	ggcggccagg	420
ctccgggtgc	gcttcgcatg	tgacgaacag	gagatacccc	aggaactttt	agacaggaaa	480
cccgtggtga	tctatacatg	tgacgggtcc	gatatgggcg	ttccggatac	ggaccgcaag	540
gagctggagg	cgttcacatg	ctccattccc	gaggtgcctt	ccgtggtacg	tgagagggta	600
aaggaggatg	cacgcataaa	gaagttttga				630

&lt;210&gt; 5002

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (110)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5002

ttctgcgggtg	cagaaataaa	cataagcaaa	atgaatgcga	agaagaat	aatggcattt	60
atattgacgg	tatcctcaat	agcgttcatg	gtgatttgtc	tgggcctggn	gatggtgaaa	120
gcttgtgcgg	gaggagacgg	gagcgaatgg	aaaaagaagg	tggcggcaga	cacgctgcat	180
gtggtgcatt	atacacggcc	ggattttacca	cagataatga	ccgatacctgc	ggaacgtgcg	240
gtctactacg	tgaacatta	ctgggatggt	tatctgacag	gtgatacggc	atgggtgaat	300
agtggagaca	cggagcagtt	gtatgttgac	tttatcgatg	cgctgaagta	tgtcgaacct	360
gagaccgggc	gaaaggcatt	gcataccatg	atggtagcga	tggaggcaga	cagtacggca	420
taccggcgct	ttggcctgct	gggggaaaag	tatctcaacg	agccgaattc	accgatgcgc	480
aacgaagact	tttacatcgc	ggtactggaa	cagatgctgc	aatcggaccg	attgcaggaa	540
tgggagaaga	tccgtccggc	agaccgattg	aagcaggcac	acaagaatcg	cccggggaatg	600
aaagcggcgg	attttacata	tgtcacggta	catggtgaca	atagccggat	gagcaggctg	660
aaagcccaat	atacgatggt	gttcttttac	gatccggact	gttcgaattg	ccggaagttt	720
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ccgcagggat	ggatcgtggg	ctggaacaaa	gcaggcgata	tccgaaccgg	gcaactttac	900
gatatccgcg	ctacgccgac	tatctatctg	cttgacgggc	ggaaacgggt	gataactcaa	960
gatacttcga	tggaaacagtt	gatagactat	ctggcgacac	aggccggaaa	gtga	1014

&lt;210&gt; 5003

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5003

actttgaaag	atatggtaga	gataagaaag	atcgaggagg	tgtggggagg	tgtcgacatt	60
ccggagataa	ccggagtata	cgatccgctg	agcgggctga	gagacgggac	tattacatcg	120
caggcaccga	ttgttgtttc	gggttacaat	ctgaaccgtt	atgcgttgga	gaatatcaga	180
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tactctgagg	ggaagggtgg	tgtggcttta	ccggagttga	agccgggtga	gtatcgctcct	300
gcggtgatac	tgaaggagaa	tgaaaaaaag	gtgtatgtac	tgcctatgcg	gtgggtggta	360
cgaggaaggt	ggagaagata	a				381

&lt;210&gt; 5004

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5004

accggtttac	tctctcttca	tctgtaactg	tatccgtttc	cgttcgaggt	ctatgctcaa	60
tactttcacc	gtgacgtggt	ggtgaatgga	gaccacttcg	gtgggatcgg	tgatgaatcg	120
gttggcaagc	tgggagagat	ggacaagccc	gttctccttg	atgcctatat	cgacaaaagc	180
tccgaagttg	gtgatgttgc	tgacaatacc	gggtag			216

&lt;210&gt; 5005

&lt;211&gt; 2127

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5005

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agtaatactc	tccggctgtt	agccgagggg	gccactatcc	ctttcatcag	ccgctaccgt	120
aaagaaatca	ccggcggact	cgacgaagtg	cagatagaat	ctatcaaaac	gcagtacgat	180
aaactctcag	aactcgccaa	acgcaaagag	accattctcg	gcaccatcgg	cgagcaaggc	240
aaactgacgc	ctgagttgcg	gcaacgcata	gatgccacct	gggatgccac	cgctcttgaa	300
gatatactacc	tgcctacaaa	gcctaaacgc	aagacccgcg	ccgaagctgc	ccgccagaaa	360
ggactcgaac	ctctggctct	gctactgatg	atgcagcgcg	agaacaacct	gggctcccgt	420
attcctgcgt	tccgcaaagg	cgatgtcaaa	gacgcagagg	atgctctgaa	agggtcccgc	480
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&lt;210&gt; 5006

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5006

gcgacaaatg	tacgcaataa	atctgctata	accatcaact	tttactatct	ttgcgggcat	60
aaaaaaacgg	atacacacac	tctaaaacag	atgaatatgc	cggtatcggt	caaatatatt	120
ctttatttac	ttctgttagt	tattgggtgc	tgtcctccca	tggcaggaca	tgctgctacc	180
ggtgagaaac	ccatactgat	gatctgttcg	tacaatccgg	gagcgatatc	gaattctgcc	240
aatgtatccg	actttatgga	cgaatatcag	agggtggggg	gcaaacgggg	agtggtcatt	300



gaagacagtc atcaccgggg gtgc

324

&lt;210&gt; 5007

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5007

agacacatcg	tgtgtgtgga	cagtaatcag	tcattggcgca	tcgtgagtga	caaggcggcg	60
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attccgcatt	ggcatcgcta	ctggacgggg	agcagccaaa	gcccgggtata	tggttatttcg	720
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&lt;210&gt; 5008

&lt;211&gt; 911

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5008

ggtaaaatga	cacacagaat	tcaacaggaa	agcataaaga	gacgtctggc	aaaactggct	60
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ttgtttggtg	gtggaataat	cagccttatt	ctgtttacaa	tggtctgcac	cattctgcaa	360
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gcattcgctt	ttttccaggc	tattttctct	actctttccg	cttcattgct	cagtgcgaat	480
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gtcaacatta	tcattgttcg	ctatatattc	agcatctcca	tggcccaggg	aggagctatc	900
tggatcggac	a					911

&lt;210&gt; 5009

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5009

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gagctgaaat	atgatgttat	tattttgccg	tggggagcta	cggaacccca	taattttacat	120
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&lt;210&gt; 5010

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5010

aataatatgg	ctgaagaact	gacattttata	tccgggtagca	aagaggagca	ttatctctct	60
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&lt;210&gt; 5011

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5011

gaattcaaga	acatcttcct	gctaaaagggt	gcttgtagaa	agaaatcccc	atttatactt	60
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gataaaaagt	atccggccgt	attgcatggt	aacaggctgt	ggttacggcc	ttatgaagcc	180
attgcctgga	agcttactta	g				201

&lt;210&gt; 5012

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5012

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ggacacgata	attatgttga	ctttaccgga	gtgagataa			459

&lt;210&gt; 5013

&lt;211&gt; 483

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5013

atcgaccatt	ggcgctctcc	ttccagcccc	gtggtgaaga	cgactgcatg	gtggttcaac	60
tgtgcaggca	ggcattatcg	tccgttgaga	tgtcccgcag	ggaatcgggt	aaccggtttg	120
tttttgagac	aagagaccga	ctcctttgtt	cttcagacag	atattcaacg	cttacagcaa	180
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cagtttgagg	ttgagaagga	gaagaatcgg	gtgttgtttg	cggtagcgga	taccggatgc	300
ggcattccga	aggagaaaca	gaaacagggt	ttcgaaacgt	tcgagaagct	gaacgagtat	360
gcgaggga	ccggattggg	actctcaatc	tgtaaactca	cggtagataa	atgggggtggc	420

gatatctgga tcgacccgga ttatgaaggt ggggcgagat ttgtggtttc gcacccgtta 480  
taa 483

<210> 5014

<211> 1392

<212> DNA

<213> B.fragilis

<400> 5014

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gtaaatttgc	tctataatat	tgtggaccgc	atctatatcg	ggcatatccc	gggaatcggg	180
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gtccgttcct	ga					1392

<210> 5015

<211> 1752

<212> DNA

<213> B.fragilis

<400> 5015

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gcgcctcacg	tatgtgccga	gatgatgaat	tttatgggat	acgacgccgg	gaacatggga	360
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aaatttgtac	cgggaagagt	ggtgaaacct	gccgcacaga	gagattatga	atatctgttt	1740
ggtggaaaaat	aa					1752

&lt;210&gt; 5016

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (14)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5016

gtgggacaca	tcanaaagat	tctattatcg	tttctgttat	tgacgctgtt	cgtaacgtac	60
caggtaagca	ttacaatggt	tactcatgtg	cattacgtga	acgggtgtgat	gatagctcac	120
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&lt;210&gt; 5017

&lt;211&gt; 2301

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5017

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&lt;210&gt; 5018

&lt;211&gt; 675

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5018

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tcgggagtag	tgtaa					675

&lt;210&gt; 5019

&lt;211&gt; 1962

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5019

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&lt;210&gt; 5020

&lt;211&gt; 2520

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5020

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ggcgccatcc	aaatttcatt	tatcggatac	aaaaccgtta	cggtgaaagc	aagtagcgag	360
cctatcagtg	tgacgttgaa	agaggattct	caacagttgg	acgaagtcgt	agtagtaggt	420
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gaagatcagt	tcaaccgtta	caccatgaac	gcaaaaattt	ctgcaaagtt	aaccgactgg	1260
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&lt;210&gt; 5021

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5021

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tctttaccgg	aaaaatctca	aaaaacaaac	tattcaaatt	tatgtttaac	cgaacaattt	180
agtgtatga						189

&lt;210&gt; 5022

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5022

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&lt;210&gt; 5023

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5023

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&lt;210&gt; 5024

&lt;211&gt; 3288

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5024

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&lt;210&gt; 5025

&lt;211&gt; 270

&lt;212&gt; DNA



<213> B.fragilis

<400> 5025

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<210> 5026

<211> 411

<212> DNA

<213> B.fragilis

<400> 5026

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gccccacct	gtcccgagca	acgaggaaaa	gttactttca	gaaatacgtg	a	411

<210> 5027

<211> 282

<212> DNA

<213> B.fragilis

<400> 5027

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gacattggcg	aggaaagtcc	tcccgggggtg	tattccggcc	ccattttacc	gaaccgggat	180
tataaggtat	tcattggtctt	gccggaagcc	gcggacagag	agattatcta	ccgggtcgaa	240
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<210> 5028

<211> 531

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (45), (83)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5028

ctacgtgctg	ccggagaaga	aagagctcgt	gccgacggac	aaggngcttg	cgtgtatcaa	60
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gccaagatcg	agagcgggga	gatgaatccc	gacagcttgc	gcaaggccat	cgagggctat	180
gccgcccaga	ttaccgaaga	actcctgcaa	gtgcaggat	cggtggcgga	cggcggacat	240
atcccgtgcc	ccaagtgcg	ttccggctgc	atcctccttt	acccgaagg	cgccaagtgc	300
agcaacgtcg	attgttcct	taccgtcttc	cgcaacaagg	gggagaagca	gctcaccgac	360
agccagatta	ccgacctcgt	gaccaaaggc	aggactgccc	tgatcaaagg	attcaggagt	420
aggaggagata	agcccttcga	tgcatacctc	actttcgaca	aggacttccg	catcgatac	480
gggttcccgc	ctcacacgga	caagtccaaa	ggaaaggagc	acaggcgatg	a	531

<210> 5029

<211> 204

<212> DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5029

ttttttacta	cgatgaagga	atattgcggt	tattggtttg	aaaacggaga	accgagggcac	60
gaggtatatt	cctgtctgga	cggggaggag	atgttttcct	gcatgataag	aggacaggac	120
ggcgtggaac	acgtggaaat	atccgaggaa	gatatttcct	ctccggagga	attccgggaa	180
atatgccccg	gagattttct	ttga				204

&lt;210&gt; 5030

&lt;211&gt; 2166

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5030

ttgaagcgta	ccctttacac	caatgcaaaa	gcagatcata	tggttaagaaa	agaggaaata	60
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gtgggtcgaa	atttcctgaa	tccgctgtac	gctgatggca	gggcctcgtg	taacgtttat	180
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gaactgatac	aggaaaaccct	ggacgtgaag	gaacggacgg	cgaaggggta	catccgttac	2100
atgcgggaaa	aggaaattat	tgaaggagag	ggcgactgct	atgtatatgg	acagcgaaaa	2160
atttga						2166

&lt;210&gt; 5031

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5031

gcaatccgca	caaaggatgt	gggcgataat	tggcgtaagc	cgggacagga	ttttctggtt	60
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tccaaatcat	ttgatgtcac	gttacgtgac	ttcacactga	ttgatgaaat	tttaaaacgg	120
gtggacacaa	aaggaattca	tacgatgtat	atagataaac	tggaacatag	gcatatcctg	180
tcctatcaca	ggaagggcaa	gatagaagcg	ctgaaagcgg	cacgggaaaa	ggcggtttac	240
ctgctggagg	caataggtaa	gaggccgggt	gagatcatcc	gcatcgtgga	aggaggggat	300
gctggaaaag	agatgtttgc	acaaggatcat	atcttatcgg	ttgccccgcc	cccatttgag	360
agaagccgca	cgataaaaaa	gagatattcg	atgctgggtcc	ggttcgggat	cgtggatcga	420
tga						423

&lt;210&gt; 5032

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5032

ccgtttgacg	cctcggcatc	ctcgaccggg	agaagatgca	gaagcagttc	ttcggttacg	60
acatcaccga	ctccgacaag	caggtgctcc	ggcagacggg	ctacatgggg	caccggcgca	120
ctcgtcacca	accggggcgg	cgagcaggtc	gaagcccttg	tcagccgcaa	cttcaagacc	180
aacgagctgg	tcgctttccc	gctctccaag	gtcaatatcc	cggcggagaa	gaacgggcat	240
accttcaccc	cggacgaaat	agcccggctc	aaacagggcg	aggcgggtgt	ctgccagttc	300
ctttccagag	ccaaggaggg	ggagcaaccc	aagatctacc	cggctcccg	acagttcagc	360
gcagccaaga	tgcagctcga	atttctcttc	ggcgaccggg	gcaagctggc	gatggatgcg	420
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gagcttaccg	agaagtctcg	cctcgaactc	gaagccgggg	gaacgggtcaa	ggtctccgg	540
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ccgccttca	tgtttcccaa	ggactacaag	gcggcactcg	aagagggg	tgtcaagccc	660
gocgtggaga	acgaggtgca	ggtggcggtc	aattccgagg	gcaagaccgt	agaggcgacc	720
cgcaacctga	aagaagccct	gcaatccgca	cagcagcgcc	ccaccgggga	gcagaaacag	780
cagcaggagc	gcaagcagga	gcagaaagag	gaacggaaac	agtcacagaa	gcaggaacag	840
ccgcacaagc	ccaagcgcag	ccgggggtgtc	cgccgctga			879

&lt;210&gt; 5033

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5033

ttaaggaata	acatgataga	aacgtacttt	aacaacttga	tgcaggaggt	cgaacgtaag	60
atgggcattg	aatcttcccg	tatggaggga	gagcaagtga	tacggacttg	tcaggagatg	120
gtttcttttt	tgagggagcg	atcccgtgag	ttgaaggact	atgtcctaaa	ccaccattc	180
tccaacgtgg	aagaggaaat	ctgctttttc	aagtattaca	agcctgccct	gacgggacgc	240
ctgctgtatt	attaccgggt	ataccagatc	gagagcgggt	gttcatgttg	cccggagatt	300
gcccggatgc	attaccgcaa	ggctatgaaa	gaataaccagc	ggaaactgga	acgatacctt	360
ccctttttacc	agtattaccg	gagcggggcg	acttaccggg	accattacta	tttccgccgt	420
gccaaaaagg	agctgagccc	ggaaagcgga	agttttatgc	tggaggagga	ttcggtgatg	480
tcaaccgggt	atgacttggt	ggccgcaaga	ctgatagcgg	cggaaatgtt	acttggttat	540
ctgaaccgga	aagtgtctgt	ggcaatggag	ggggcgatatg	ccgtgcagga	aaaggagcac	600
cattggacgg	accggaaggc	ggctgccgtg	gaactgatat	atggcatttg	ggcgatgggt	660
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catattgacc	tgggagacgt	gtaccacacg	tttatctcca	tgcgtaaccg	gaagaacagc	780
cggacagctt	accttgatca	aatgaaggaa	cgtttgttga	aacgaatgga	cgaaacggac	840
ggataa						846

&lt;210&gt; 5034

&lt;211&gt; 1248

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5034

tctggttgta	aaatcggggc	agtgtcaacc	atTTTTTcac	cgattaatcg	catacgcaag	60
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atgaaagctc	cacggaaaat	ttatacatgg	accagtatcc	tgcttttcgt	gtgctgttcc	120
cttatttttc	tttcatgtga	aaaggaagag	ctcggggaag	ccatggaaaa	tcggaaaacg	180
ttattcatgt	ttctgccgtg	gtccactgac	ctgacaggct	atttttacac	caatatcgcg	240
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aagcattggg	agtatcagga	gcagccgctg	acacgctatt	tcgggggact	gacccgggag	600
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ccccttcca	tacatacttt	ctcgggtata	acgatctcgg	acccgagcac	caatcccacg	1200
gccttactga	aaggtagcac	ctcttggtac	aaggccacac	acgaataa		1248

&lt;210&gt; 5035

&lt;211&gt; 258

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5035

catgctgcca	aagttttttt	tctggtacaa	aaaaaccgcc	gcggagcctt	attcgggctc	60
tctacgggtg	ctatatactg	tattttcacc	aaatggcgta	tcgggaaagg	tgatttggca	120
acttgctatg	aacctgccag	tctcttcctt	gttttacaaa	aggttatccg	tccgtttcgt	180
ccattcgttt	caacaaacgt	tccttcattt	gatcaaggta	agctgtccgg	ctgttcttcc	240
ggttacgcat	ggagataa					258

&lt;210&gt; 5036

&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5036

aatgctatga	acaggtatgt	atctgaaatg	atcgggacaa	tggctcctgt	tttcatggga	60
tgcggaagtg	ctgttttttc	cggggatag	cccgggtcgg	tcaccaccgg	ggtgggtacc	120
ctgggagttg	ccatagcctt	cgggctgtcg	gtggctcgca	tggcatacgc	tattggcgga	180
atatccggat	gccatataaa	tcgggcgac	acactgggca	tgtactgctc	gggaggaatg	240
gggggcaagg	atgccctgtt	atacattatt	ttccagataa	tcggggggat	tctcggatca	300
gccgtacttt	tcatactggg	atctacgggg	ccacatgccg	gccctaccat	gacagggagc	360
aacggctttg	ttgaggggga	aatgtttcag	gcctttatcg	ctgaggccgt	ctttacgttt	420
attttcgttc	ttgtggcgct	gggagccacg	gataaaaaga	aaggggcccg	taaactggcg	480
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acatcagtaa	atcccgcgcg	cagcatagga	cccgcacttt	tcgagggagg	aggcgcgac	600
tcacagcttt	ggctatttat	cgctcgctcca	ctgacaggag	gtctggccag	tgccatagtg	660
tggaaagcca	tttctcagca	tagcgacaga	caacgatga			699

&lt;210&gt; 5037

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5037

cataacatga	atgttgaaca	attagcaacc	atcatagccg	acacgcacca	acgattacaa	60
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cagagtgcgg	tcaaagccgt	aaaccagtgc	cagaccatgc	gtaactggct	tatcggtttt	120
tatatcgtgg	agttcogagca	gaacggagaa	gaccgtgcc	aatatgggga	attcttattg	180
aaaaacttgg	aacaaaaagt	taatttaaaa	ggattgaata	ttacattatt	caagcgttca	240
caggtcttct	atatggtata	tccccagttg	gcaactgtaa	taaaaacgat	attgcctcca	300
acaggtgcat	caacgatgca	cttattggaa	atgcagggtc	ttggaaaaag	tgcactcactg	360
atgcacttat	tacaaaatgc	tgaaaacaaa	caagatatag	ttaatacgat	agagcctcag	420
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gaactcgaaa	cacttctgct	cgaccatttg	cgagacttca	ttatcgaa	cggaaacggc	780
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atggagccgg	gcgataaccc	gcctatcggc	attttgctgg	taacggacaa	gaacgatgcg	1020
ttgggtgcgg	acaccacaac	cggattggat	gaacagatat	tcgtttccaa	ataccagttg	1080
caacttccga	ctgaacaaca	attaaaagag	ttgattttta	agacaatccg	gcaataa	1137

&lt;210&gt; 5038

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (191)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5038

aaattaaacc	ttatgatgaa	gaaaattttt	atcagtttgt	ttttgtctgg	tgtttttatg	60
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gggatcagtg	cgggaggaac	aaccccgta	acacatcatt	ctttctttgg	aaacatgcgc	180
ccgatcacgg	ngatagaact	gaataaacia	ttgacaccgg	ttttcggttt	cgggtcggag	240
gcggtcggaa	gctttaacac	ctcacaacgc	aggaccattt	tcgaccgctc	caatgtcagt	300
ctgttggggg	tggagaacct	gaacaatctc	cttgggacct	ataccggggg	tcccagacct	360
taa						363

&lt;210&gt; 5039

&lt;211&gt; 417

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5039

aagattatgg	aaataatagc	aatcgaaagc	atagcgtttg	ctaccctcgt	ggagaagata	60
gaggggatag	cggcatacgt	gcaggcgctc	ggaacaaagg	agcgggagca	atggccggta	120
gcggataaga	agggtacgag	gaaggcaggg	ctatggatga	cgggaaagga	agtgtgtgaa	180
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tctatctgcg	ggaggaagat	acgttaccgc	cgtacggacg	tggaaacagtt	ccatgagcgt	300
tggatacggg	aaacgcctga	caagctgggt	gaccgaatga	ttgaagcgta	ccctttacac	360
caatgcaaaa	gcagatcata	tggtaagaaa	agaggaaata	ctggcaaaaa	caggtaa	417

&lt;210&gt; 5040

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5040

aggaacggac	ggcgaagggg	tacatccggt	acatgcggga	aaaggaaatt	attgaaaagg	60
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agggcgactg	ctatgtatat	ggacagcgaa	aaatttgaga	attggatgga	gcgtatcatg	120
gaacgtttcg	accggacgga	gaagttgttg	gaaagagtac	tgaagaagag	caacgcgctg	180
gatggagagg	aggtactgga	taaccaggac	ctgtgcctgc	tgctgaaggt	cggtattcgc	240
acattgcaac	gttaccgtgc	cattgggata	ctgccgtatt	tcactatcag	tggcaaggtc	300
ttctatcggg	tgaagatgt	gcacgagttc	ctccgcaacc	agtttgccgc	tgtggaggaa	360
cgggctgcaa	aacggaagga	gaaggaagtc	cggaaagagg	aaaggcgcag	gaaaaaaggc	420
ttgtttccgt	aa					432

&lt;210&gt; 5041

&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5041

tttaacctgc	gagagagcaa	ggcatggaca	ttggcactga	aacctgccct	ggtctatgac	60
atgaatgcta	tgggttccga	agccgtacgt	ttccattccg	gacgggccgt	atgggaaata	120
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actaaaaaga	cgctggaatc	cgtcataact	ttccgccagg	gcaggacgac	agttgacaac	420
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cgacaaaagag	cggaggccgt	gaaaaaaatg	ctggtgggca	agtatggaat	tgcagaagaa	600
cggattgtag	ccgagggcca	gggagtaggg	aacatgttcg	aggagcccga	ctggaaccgg	660
gtaagcatct	gtacgatcaa	cgcgggaacg	gaatccagta	gccgttaa		708

&lt;210&gt; 5042

&lt;211&gt; 276

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5042

actgttatgc	gtgttttcaa	tcttttattg	ttgatctcca	tgttcagtc	cattccgctg	60
cccgtcagg	tgggcgaacg	ttatatagag	gtagccggta	cttccgagat	agaggtagtt	120
cctgacagga	ttcattatgt	tatcgaaata	aggcagtact	tcgaagtaga	gtttgatggc	180
gtatccgaac	cggaagaata	tcgcactaag	gttctcttta	ccaggataga	ggagcaattg	240
aagcaggttt	tgacaatagt	cggagtgcc	cggtag			276

&lt;210&gt; 5043

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5043

ccggtaaata	gattaataga	ttcaactcac	gataagatga	aagattatta	ctttattatg	60
aatgccgggg	taaaagccgg	aggggagatc	acccatgcgg	tattagaagg	gaaaattgta	120
tccgcaccga	aaggatacga	tgcttcacg	gggattgaag	cggccaggga	gaaactggct	180
tgccgggaata	tccgtcagca	gatggaagaa	ttcggtatcg	aacttgagat	cgtgccggta	240
aatactgatt	ttttactacg	atga				264

&lt;210&gt; 5044

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5044

gaaggggctg	gagtgcggac	cgaacgacgg	caggatatgg	gctgtacgg	cgagcgaagt	60
gctggaggac	gggaaaatcc	gaacgggtgta	cgggaggatg	taataaaaaa	gcaaccgcc	120

gatttgggca	ttattaaaga	ggcttggcag	gttctattga	ttgcaaagat	aacggaaata	180
gttgggaacga	caaataattag	aatactacaa	atgcgcaact	atgtgttgcg	catttggtat	240
tattgcccga	ttgtctttaa	aatcaactct	tttaattggt	gttcagtcgg	aagttgcaac	300
tgggtatttg	aaacgaatat	ctgttcatcc	aatccgggtg	tgggtgtaccg	caccaacgca	360
tcgttcttgt	ccgttaccag	caaaatgccg	ataggcgggt	tatcgcccgg	ctccatcact	420
tcggctttat	aa					432

&lt;210&gt; 5045

&lt;211&gt; 297

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5045

aattcagata	tgactaaagc	agatattata	aaccgggtct	ctgaggagct	tggaatcgat	60
cgcaggaccg	ttggcctggg	aatcgagagt	ttcatgaaat	gcgtgaagga	tgcaactcggc	120
agagagagaa	ttgtattcct	gcgcggatcc	gggacctttt	ctttgaagaa	aagggcggca	180
aagaaggcac	agaatatcca	acagcacaca	accatatgca	tcccggctcg	caaggctccct	240
cattttaaac	cctcggagtc	tttcttgggt	ctccggaaaag	aagataatcg	aaaatag	297

&lt;210&gt; 5046

&lt;211&gt; 246

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5046

caagtccgta	tcaacttgctc	tccctccata	cgggaagatt	caatgcccat	cttacgttcg	60
acctcctgca	tcaagttggt	aaagtacgtt	tctatcatgt	tattccttaa	ttatggggca	120
cgtgagtacc	ttcacgctac	ccgatttatt	tttatgcctc	gcttgattcg	atcgcagggt	180
ttcctttcgg	ccctttacga	tgaaaaaact	tttcttcata	tcgaaaagac	cggagaaaag	240
ccatga						246

&lt;210&gt; 5047

&lt;211&gt; 1641

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1363), (1550), (1568), (1622)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5047

agaaatatga	ttacagcagt	tatcgctgaa	aagccttccg	tagcgaagga	tatagcaaac	60
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tgggcgttcg	gccatctcgt	ccagcttgcc	atgcccgaa	catacggcta	tgccggcttc	180
cggcgtgaga	acctgcccac	tctgccgcag	gagttcaagt	acatcccccg	ccagatacgg	240
gagggcaagg	agtacaagcc	cgaccccggc	gtactcaaac	agttgaaggt	catcagggag	300
gttttcgacc	gttccgatcg	tatcgtcgtg	gcgaccgatg	ccgggcgtga	gggtgaagcc	360
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tctcgcgtga	ccgaccgtgc	catccgggaa	gggctggaca	acctcaaaat	cggaaagcgac	480
tacgacaacc	tctaccgtgc	cgccgaagcc	cgtgctatcg	ccgactggga	gattggatta	540
aacgccaccc	aagctctcag	tatcgccgcc	gggcagggca	tctactccct	cggacgggta	600
cagacaccca	ccttgatgat	gatctgctcc	cgttatctgg	agaacaggga	tttcacccccg	660
cagacctatt	accggctgaa	ggtcacggct	gaaaaggacg	gcacgccttt	cgccgccatc	720
tctgaattgc	gttacgaaac	ccttcggcgc	gcaaatgccg	ctctcggcgc	tgtaaccgca	780
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agcgtgttca	ccgccaaggg	gacggtcgtc	agatccgcg	gatggcgtgc	cgtgcggaac	1320
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gagagcagcc	tcctttcggc	gatggagcat	tgccgcaggg	agttgcagga	cgacgagctt	1500
cgagacagtt	tgaaagggaa	cggtatcggc	acgcccgcga	cccgtgcctn	catcatcgag	1560
accctctntg	cccgtgacta	cgtgcgcccc	gagaagaaag	agctcgtgcc	gacggacaag	1620
gngcttgcgt	gtatcaaata	g				1641

&lt;210&gt; 5048

&lt;211&gt; 1554

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5048

ttttttcaga	ttatggacga	acaaccggac	agcagccagc	agttaatgga	catcctgctc	60
gtcatggacg	agaaagggac	gcttcaagcc	gtcagcggag	taaaggacgg	cgagttacag	120
accaagaacc	cactggaggga	caacaacgac	ctcctgcggg	tggtatcgcca	cggcgatatg	180
ttttcaaatt	tcttttccaa	cctctggagc	cagttgaaag	atccgaccgc	cttccatttc	240
ttcctgtgtc	cggaagagca	ggtgcagcgg	gtacccgcgg	atttccggca	gcgggagagc	300
cggtcgggtca	agacaggtga	gccgctcctc	gcacagtagc	aggtgcagcc	gcccgtgcag	360
gcacagcagc	agacccaagc	cgggcagcag	caacagccgg	aggatgcgcc	gcagcagttc	420
gccgggcaga	ccgaacagaa	cccgcagtac	aagtaccgcc	cggaggacat	cgactggaac	480
agcctcgtcg	ccctcggcgt	gcagcgggaa	cagattgagg	gcaacgggat	gctcgaccag	540
atgctccggg	gcttccagac	cgacaagacc	gtccgggtgc	atttccactt	cgagggcatc	600
tgcacagca	acgatagcca	gctctcgctc	aaaccgggca	cggacggcag	gctgaccgtt	660
tgcagcctcg	gcatcctcga	cccggagaag	atgcagaagc	agttcttcgg	ttacgacatc	720
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caccaaccgg	gcgggcgagc	aggtcgaagc	ccttgtcagc	cgcaacttca	agaccaacga	840
gctggtcgct	ttcccgtctt	ccaaggtcaa	tatcccggcg	gagaagaacg	ggcatacctt	900
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cctgaaagaa	gccctgcaat	ccgcacagca	gcgccccacc	ggggagcaga	aacagcagca	1440
ggagcgcaag	caggagcaga	aagaggaacg	gaaacagtca	cagaagcagg	aacagcccga	1500
caagcccaag	cgcagccggg	gtgtccgcgc	ctgatttccc	ccgccactct	gtaa	1554

&lt;210&gt; 5049

&lt;211&gt; 498

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5049

aaacacattg	ttatgaaaca	gattaccttg	cacgtgtacc	aatccatcga	cggctgtccg	60
gtcatagcgg	acaagtgttt	caatgcggta	gtggacgcct	gtgcctacgt	gctgattgac	120
gaggaaaactt	acctgcgtat	ttacctgaat	gatcttgact	ggccgcttga	ggcaaaggag	180
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aggggggaatg	tggtaacgga	actgcaacgg	ataaaggaga	atggcgacgg	tatggtggtg	300
gcttacggag	gagaaaccgg	agttttactc	ttggacaacg	ggctggcaga	tgaaatcgtg	360
atgacaaccg	tgccggtgct	ggtcggtaac	agtgagaagg	ggctggagtg	cggaccgaac	420
gacggcagga	tatgggctgt	acggctcgagc	gaagtgtctg	aggacgggaa	aatccgaacg	480



gtgtacggga ggatgtaa

498

&lt;210&gt; 5050

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5050

cacatgagcg	tggttgaaag	tatcaacttt	caattcgcac	aaaatatgac	atttcaaaat	60
ccggtggtag	aagaccatat	caatgaaata	aaattcgtca	ccgataagga	ttcttttttg	120
tctggcttcg	aaacagaagc	cgtttccgag	ttcgataatg	aagtctcgca	aatggctcgag	180
cagaagtgtt	tcgagttcct	tctcctttag				210

&lt;210&gt; 5051

&lt;211&gt; 492

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5051

gttatgaata	cactcacttc	tcaaattgaa	caattacaga	gtctcgcgca	cgagttactc	60
tatttaggtg	tggatgggtg	tcttatttat	accgatcatt	tccgtcagtt	gaacaaagaa	120
gttttagaac	aatccgatgc	gttgatctct	cagcgcgggtg	ctacttccga	agaggaggca	180
aacatttgtc	tggcactatt	gatgggttac	aatgcaacca	tctataatca	gggtgacaag	240
gaggagaaaa	agcaagttgt	tctcaatcgt	tgggtgggacg	tgcttgacca	aacttctggt	300
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ggcaaagagg	ggccttcctt	tattaaaaag	gtggaaagaa	taagaaactt	tctgaagatt	420
aaaaagaggc	aattaattat	tttgagaaaa	ttgggaaaaa	aaatcctatt	ctctatgggg	480
aaagggaaat	aa					492

&lt;210&gt; 5052

&lt;211&gt; 525

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5052

atgtctgaac	aacagaagta	ttggttttgcc	gcccgtaccc	gagataaaca	agagtttgct	60
attcgtgact	ctcttgaaaa	attgaagact	gaacttgatc	tcaattacta	tcttcccact	120
cagtttgatc	tccggcagtt	gaaatatcgt	cgaaaacggg	tggaaagtccc	tgttattaag	180
aatcttatct	tcatccaagc	taccaagcaa	gatgcttggtg	atatttctaa	taaatacaat	240
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cagatgcagg	acttcattat	tgtcatggat	ttagatccga	atggcgtcag	tttcgataat	360
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ggcgaacttg	ccagcgaggc	caacaaaact	tatgttggtta	ttcgtattgc	cggtgtattg	480
agcgccagtg	tcaaagttcc	taaaagttat	ttacgtgtca	tttaa		525

&lt;210&gt; 5053

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5053

cattatggaa	gaaaaaaaagt	agttatctca	ttgaatgata	acttagtaac	catcgaagta	60
aatggaaaag	taatctttgc	gggtaaagcc	gacttgcaat	tcagcctcaa	tcaaaaaggtt	120
agagaaccac	tacgcatcac	aaaaggcaaa	ggaaagctaa	tggaggcact	taccgaaagc	180
tttatcaaag	gcggaatcaa	cagcatggaa	aacagaccca	ttgaagaact	acaggaaaca	240
ataaaagaat	atctcacctt	tgaatatcag	cgcaaaggca	ttgctacaga	gccaataaaa	300
cgttcttttc	tatcagagct	gaaaaaatat	gccagagcat	tccggaaaaa	acgagatgaa	360
agcgaataa						369

<210> 5054  
 <211> 927  
 <212> DNA  
 <213> B.fragilis

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 gatgctagcg gtgaatcagt catcggagcg agtggtgtcg aagtcggtac caccaatggg 180  
 gtaattaccg atattagcgg caagttttaca ttaatgggtcg atcctaacgg aaagatcaaaa 240  
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 aaacagttgc gtaccaaagt gaccaattca attggcaaaag taaaggaaga tgttctacaa 420  
 aaaggactct ttccaatcc ggcacaagct ttgtctgggg cggatcggg tgtacgtgtt 480  
 cttcagacct caggatgatcc aggagctact cctactataa tcctacgtgg tggtagcgat 540  
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 gatatcaatc ctgaggatat tgagtcaatg gaagtcctaa aagacgccgg tggcactgct 660  
 atttatgggtg ctgcgcgtaa taatgggtgta atcttagtta ctactaaacg tggtaaagaa 720  
 ggtaaagggtg aggtcagtggt aaaggctaaa gtcgggtatca actattacaa taatccttat 780  
 gaatttatga atgcccgcgga ttatatctat tggatgcgta cggcatatca acgttctggc 840  
 caaatctata aagattccaa aggtaattgg gttggtacag cagatatgaa tagtctaaat 900  
 aatgcaacct ccctatggta cgggtaa 927

<210> 5055  
 <211> 807  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (55), (111), (202)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 atcaatcatt ggctgaacga aataaatgca gaaaatgcac aggcggtaat ctacacccaaa 180  
 gagagtgatg agatcatgaa anagctcagc cttaaattcca gcgagggcgg atttaagatt 240  
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 ctggaagaac cacccgaaaa gacaatcttc cttttgggtt cggaggctcc cgatttaatt 360  
 ctccaaacga tattgagccg cacgcaacgc ttcaatctac gtaaaattga ggaagagtgt 420  
 atggccgagg ctttacaagg caaatacggg gtccagcagg caaccagtat ttcgatcgcc 480  
 cacctagcca acggaaactt tatcaaagcc ctcgagacaa ttcacctgaa tgaagagaat 540  
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 gaaatgaaat tatggagtga acaagtggca ggcattgggac gcgaacgcca gaaaaatttt 660  
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 gggctgggag gatcgacgct ggtgtaa 807

<210> 5056  
 <211> 222  
 <212> DNA  
 <213> B.fragilis

<400> 5056  
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 atgccgataa tgctttacta tccttttcaa aaaggactaa taattcacgc taggaatgga 180  
 aattcttatc atggcactaa atctgtagct tattttcatt aa 222

<210> 5057  
 <211> 1680  
 <212> DNA  
 <213> B.fragilis

<400> 5057  
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 tatacagcaa acgatataaa atcatattct gacctgtttg atgtgttttg gaatacaatg 180  
 aatcaaaaat ataattatct ttacgagcag agcagtttta attgggaaac ggtatataat 240  
 gaatatgctc cgaaattcaa aaaattgaaa acgttcaaca gagataagca gtatagcaaa 300  
 gcggaaatct cagaagattg taataaagcg atagaatatt ttacagaaat catagatccc 360  
 atcatagaca ggcacttcta tgtaaagatt tcacttcctg tatcgcatag ttttatcaga 420  
 aatgtctact ttcatgggtg tatgaagagt aaagaaaaga tatataccta cccttttgaa 480  
 ctcaagtatg aatacatgag atctaaaata caatctgaaa caggagtatt cggacaggcc 540  
 aacgatatgt taggtggttt cttatcagac aatcctgaca tatattactt cagctttaaa 600  
 tcatttacia taagtaatca ttatatattg tcatttggca gcgaatactt ggttatagac 660  
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 aatcaatcag aaaatccaga caatagtttt attgaggcat tatccaaagc aaaagaaaat 900  
 gcgcctgata taaatattga attatcacag ttaagtgttt tgaaagaatt tagattaaat 960  
 cctaattata ctacatgggt taaacagcgc tcaaccgaac atttacaatt agcatgtgaa 1020  
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 tatagaaact ttttggtagc cctcaaagtt ggaaaaataa aaaagataat actggatctt 1140  
 agaggaaatg gtggcggtat ggtacttgat gcaagaacat ttacagatcg ttttatcact 1200  
 aaagatgcta ttttggcta ccaaagattt aaggaagata acaatccatt cagttatacc 1260  
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 gttattcttt tagataacaa tagtgctagt atgtccgaaa tcagcacttt aatgttaaaa 1380  
 agccaaggaa aacatgtcac agtcgtagga ggctatagcg ctggtgcaac tgctggattg 1440  
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 tatatgcctt tacttgcaat gcaggatgca acccatactg taatagaagg aataggtatc 1560  
 aaaccggacc tactagtaga cccactaaca gaagatgaag ttcgtgaaat ggctctttca 1620  
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<210> 5058  
 <211> 516  
 <212> DNA  
 <213> B.fragilis

<400> 5058  
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 gctataagtg actatgaagg cacttatagc ggtacgatgg ataatatcat aatgagaggt 180  
 aagccttatg aatcacgggc tgcaacttat aaaatagagg gtggccgttt gaaatgtgat 240  
 tttccgcaga taggtagtat gccgggtaca attactatct ctttggctgt ggaagtagat 300  
 gaggaaaccg gcgagattac agcttacaac ggggacgaag caggcacttt gtcgcttccg 360  
 ttgggaataa aggtcaaatt gtatttggac gacttgagag atgcaaagat tacggataat 420  
 ggtagctcta aacaaataga atttacactg gacgtttccg gtacattctt gggagctaat 480  
 ttccctgcat ctgtgcattt tgtaggtaca aaatag 516

<210> 5059  
 <211> 255  
 <212> DNA  
 <213> B.fragilis

<400> 5059  
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# 2004

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<210> 5060  
 <211> 1494  
 <212> DNA  
 <213> B.fragilis

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 <213> B.fragilis

<220>  
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 <223> Identity of nucleotide sequences at the above locations are unknown.

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<210> 5062  
 <211> 198  
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 <213> B.fragilis

<400> 5062

# 2005

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 <212> DNA  
 <213> B.fragilis

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 <212> DNA  
 <213> B.fragilis

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<210> 5065  
 <211> 750  
 <212> DNA  
 <213> B.fragilis

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 acacgttatg ataccaaaac aggtgttgca acaagggtaa atcttgaata taattttttt 240  
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 acggataata ttacaggaac acatacactg tataaaaaaca actttatgga tataccgtta 360  
 aatgtaggct tgtatctttt taataaccct cataaagaaa atggtatatg gctaaaagtt 420  
 caagggtggcg tcttctatga gtacttcaca agaatgcac ggaaaggcga atatccaatc 480  
 tttgcacaat tacaagaaga tggttcctac atcaaagctc aggtaaatga aacatacgat 540  
 tttaagagaa atgaaaacaa cttgaaaaga aacctattcg ggatagaggg gacaggagaa 600  
 gttggctatt ctttcaatag gatcgacggt tttgcttcat atacctatca gtatggctct 660  
 accgatatat acaaagcaaa aacttcttct aatcgtaaat caaaaagaat ctcaaacatc 720  
 atatcggttag gcgttgcccta taaattttta 750

<210> 5066  
 <211> 687  
 <212> DNA  
 <213> B.fragilis

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 attcttgcag gagatattgt actctctacc agagcaacaa tgaatggtgt ggacaagaca 240  
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 caagaaggga gcgagcgag agtagatggc tatttgaacg tgaataccaa ccaaataagag 540  
 tttattgtag attacaatat gatgaatgtc cgcactgaaa cattttttgca aacaatcgat 600  
 aaaaccgta tcgatcgctt taaggaagag tttgcacaat acgagaaaga tttggaagag 660  
 gctaagaaaag accaaggaaa ggccctaa 687

<210> 5067  
 <211> 1428  
 <212> DNA  
 <213> B.fragilis

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<210> 5068  
 <211> 234  
 <212> DNA  
 <213> B.fragilis

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 tatgccacta ctatttattg gtatggcgat ccggaggcac aggtatttgg aacttcaggt 180  
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<210> 5069  
 <211> 1185  
 <212> DNA  
 <213> B.fragilis

<400> 5069  
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&lt;210&gt; 5070

&lt;211&gt; 192

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5070

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&lt;210&gt; 5071

&lt;211&gt; 1182

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5071

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ggcaatcaga	taccactctg	gatgttcggc	tttttatatt	aa		1182

&lt;210&gt; 5072

&lt;211&gt; 1479

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5072

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&lt;210&gt; 5073

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5073

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gactaa						906

&lt;210&gt; 5074

&lt;211&gt; 2307

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5074

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aaactgataa	aaaaggaatt	cgccaaagct	cacattcccg	tagaacttac	tttcttctat	240
ctgaatttgc	aaattaacaa	cgaacagcaa	gagatagata	agatcaataa	ctttctcgat	300
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&lt;210&gt; 5075

&lt;211&gt; 849

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5075

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&lt;210&gt; 5076

&lt;211&gt; 858

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



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&lt;210&gt; 5078

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5078

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&lt;210&gt; 5079

&lt;211&gt; 846

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5079

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&lt;210&gt; 5080

&lt;211&gt; 1173

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5080

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## 2013

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&lt;210&gt; 5081

&lt;211&gt; 375

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5081

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&lt;210&gt; 5082

&lt;211&gt; 1239

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5082

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1239

&lt;210&gt; 5083

&lt;211&gt; 309

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5083

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&lt;210&gt; 5084

&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5084

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&lt;210&gt; 5085

&lt;211&gt; 1197

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5085

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 <212> DNA  
 <213> B.fragilis

<400> 5086

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# 2016

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<211> 846

<212> DNA

<213> B.fragilis

<220>

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<222>

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<223> Identity of nucleotide sequences at the above locations are unknown.

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<210> 5088

<211> 843

<212> DNA

<213> B.fragilis

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<210> 5089



<211> 1854  
 <212> DNA  
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 <212> DNA  
 <213> B.fragilis

<400> 5090

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## 2018

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&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5091

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&lt;210&gt; 5092

&lt;211&gt; 238

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5092

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&lt;210&gt; 5093

&lt;211&gt; 2157

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5093

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## 2019

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&lt;210&gt; 5094

&lt;211&gt; 1194

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5094

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&lt;210&gt; 5095

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5095

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&lt;210&gt; 5096

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5096

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acaaaacatt	cattgaatgt	atcggttaaca	gcaggaattg	tgatctggga	tttattttaa	240
aagttgaaat	ag					252

&lt;210&gt; 5097

&lt;211&gt; 243

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5097

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aacgtatcaa	agcgcatcaa	acagactacg	tatcattcat	tctttattta	ctcgatcct	180
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tga						243

&lt;210&gt; 5098

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5098

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aatatcactt	tcttgcgcg	cagcgcccc	ggagacacac	tctatgccga	agcacgcgaa	300
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&lt;210&gt; 5099

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 <212> DNA  
 <213> B.fragilis

<400> 5099

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<210> 5100  
 <211> 963  
 <212> DNA  
 <213> B.fragilis

<400> 5100

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<210> 5101  
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 <213> B.fragilis

<400> 5101

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&lt;210&gt; 5102

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5102

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&lt;210&gt; 5103

&lt;211&gt; 189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5103

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aatacctaa						189

&lt;210&gt; 5104

&lt;211&gt; 222

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5104

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tggagtctgt	ctctgaagtg	gtggagctta	ctttatatac	tgatgttcat	catttgctgt	180
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 <212> DNA  
 <213> B.fragilis

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 gcacaacaac acgcgacagg caagaagaca gagatgagtg ttgacctgaa tctgtagtt 180  
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<210> 5106  
 <211> 234  
 <212> DNA  
 <213> B.fragilis

<400> 5106  
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 aaaaacatca atgaacaaaa gatgcttact gaccatcctc ttgggaggat gcgcggcaat 180  
 ggggtgcattt gcacaacaac acgcgacagg caagaagaca gagatgagtg ttga 234

<210> 5107  
 <211> 630  
 <212> DNA  
 <213> B.fragilis

<400> 5107  
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<210> 5108  
 <211> 207  
 <212> DNA  
 <213> B.fragilis

<400> 5108  
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 ggattggtgc aaccagggaa acagaattca ttggatttat ttaaagattc ttttgaaaat 120  
 aaaaccaagg ccctcaattt attgattttt tcccacgaaa ttccaaaaac ttctttgaag 180  
 gaaagcccaa aacgcaattt tttttaa 207

<210> 5109  
 <211> 1845  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (1708), (1755), (1761)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5109  
 aagcaaacc tctctgatac ttccagcccc gtggtacgca actgttctat gtcattccacc 60  
 attaatgggt gtggtgtatg gatgtgtatg gaccatacta tatttatcgg aggtacagga 120  
 gggcttagtt cttttctgga aaaagacctg aacaaagaat atcccaaacc taagtcttat 180  
 ttttcaagtt tatccgtcaa caacgcacgg ataagtcgg atgacaaaag tcgtatactg 240  
 acagaagggc tcccttttgt ccgggaaata aatctaaatg ccacccaaaa taacctgact 300  
 gttgagtttg cttcttccaa ctatgtggat atactgaata atacttggtg tgagtatcag 360  
 ttagaaggtt ttgacaagca atgggtcactc acctcacaaa caagcctgaa atacaccaat 420  
 ctggatcctg gagactacgt gttacacgta cggcaaaaag gcaactccct gaaaatgcgc 480  
 aaagcacaag agatcttatt acaaatacat atcaatacc catggtacct tacttggtgg 540  
 gcatggctca gttacatcac tatcagcatt tcagtgcact attttatctg gcgcgaaaaa 600  
 agttccagaa gaactttggc gatgtcgctg gagaaagaac gtattgaaaa ggaacatatt 660  
 gaagagatga accaagctaa actacgattc tttaccaatg tgagccatga gtttcgact 720  
 cctttaactc ttattataag tcaggtagag cttatgttac aaaagaatac gatacctcca 780  
 tctttgcata atagtatttt caggataagg aagcatgccc aacaaatgaa acttctaatt 840  
 tcagaattgc ttgactttcg gaaattcgat cagaactata tccaattaaa actatcggaa 900  
 caaagtctga atacattttt agaagaagtc tatctttctt tttctgctta tgcctctcag 960  
 aagtccattt cttaccatct gaagctgttg gagcaggata tatctatttg gatagatgac 1020  
 tggcaaatgc gaaaagtttt gtttaatttg ctttcgaacg catttaaaca tgttccggat 1080  
 aaaggagaaa taagcatatt aacctctacc acaccggatc aggttggtat tgcagttaag 1140  
 gattccggga atggcattag taaagaagaa caggaacgga tatttgatcg tttttatcag 1200  
 gcggacaatc ggaataaagc gattcatggt ggcaactggt tggacttgc attaacgaaa 1260  
 agtatcattc agctacatca tgggtacaatt gaggtagaaa gtgagttaaa tgaaggaagc 1320  
 tgttttattg tgaagttacc taaaaccctg gattgttttg aaaaggatac tgaagtcgtt 1380  
 tttctggaat ctccggaaaa ggaacctatg gtacaagaga ataccatacc ggatgagaat 1440  
 tttatgaaaa aggatgattc tacattcgaa actcccttga tagatgaacg ggaagggaaa 1500  
 cggaaagtat tattggtaga agataatgtg gagcttttgc aggtactcaa agaaatattt 1560  
 tcatcacttt atcaggtggt gacggctgct aatggcgagg agggactgaa acaggctttt 1620  
 gcagaagtcc ccgatttgat agtgagtgat gttatgatgc cggtaatgac aggaacggag 1680  
 atgtgtctga aaataaagaa taacatanac ctgtgtcaca ttccggttgt gttgttgaca 1740  
 gcaattgaca ctgtngatca naatatagaa gggctacccc gtggagcaga cgatttatc 1800  
 acccaacctt ttaatgcaaa aaacttaata accccgtgca aataa 1845

<210> 5110  
 <211> 438  
 <212> DNA  
 <213> B.fragilis



<220>  
 <221> unsure  
 <222> (103)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

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 tatgtgcccg ctccagagcg ttccagcttc gtcattgaca agnaggatac gcagaggggtg 120  
 gccatactcg acgaaaagga acgctcttac ggacagaagg aaaggatcag ggaggctatc 180  
 gcgaaacgta ccccgctgga tctgggactg aaggacaaga attccggtgt ggagttcgag 240  
 gtcggaaata tcttcatcga cggggatata ctgctgttgc gcatgaccct gataaaccgc 300  
 acacagatcg gttatacgac ggatttcatg cggttctaca tccaggatgc caagatccgc 360  
 aaaaagacgg cggtagacga gtcgagcag aacatcctgt tcactttcga ttataccgga 420  
 agaagtaccg gcacatga 438

<210> 5111  
 <211> 183  
 <212> DNA  
 <213> B.fragilis

<400> 5111  
 atggaaactg cgtttgccgg ttatgggatg gatccggatg ccaaagccgc tgctcttccct 60  
 gaacctgtct ttccaggggac aggcgagcgg gatcttgcg gatactccgt accgggagag 120  
 tatatcccg tagttttcca gtgtctccag gcgttcgcac ctgtccagtg ccttgctcag 180  
 tag 183

<210> 5112  
 <211> 582  
 <212> DNA  
 <213> B.fragilis

<400> 5112  
 agccgacaaa atattaagga ggatagcccg atgaaactac tgctgcccct attgcttttc 60  
 tgccctcccct tcaatggctc aaacggcgga aaggaaactac tcgacaaggc actggacagg 120  
 tgcgaacgcc tggagacact ggaaaactac cgggatatac tctcccggta cggagtatcc 180  
 gacaagatcc cgctcgctg tcccctgaaa gacaggttca ggaagagcag cggctttggc 240  
 atccggatcc atcccataac cggcaaacgc agtttccatt caggattga catggccgta 300  
 ggactggcag ccccggttta cgccaccgcc tcgggaacgg tttctttcgc gggaaaggaaa 360  
 ggggggtacg gaagatgctg cattatacgc cattcttatg gctttgaaac gctgtatgcc 420  
 catctggccg cctattacac caccgaaggc caaaaagtgc acaaaggggc tgtaatcgcg 480  
 tttgccggga gcacgggtaa aagtacgggc taccacctgc attatgaaat cagaaaaaac 540  
 ggtaaaccta taaaaccata ctggtatggc tatgacgatt ga 582

<210> 5113  
 <211> 354  
 <212> DNA  
 <213> B.fragilis

<400> 5113  
 accgcacaca gatcgggttat acgacggatt tcatgcggtt ctacatccag gatgccaaga 60  
 tccgcaaaaa gacggcggtg cagcagctcg agcagaacat cctgttccat ttcgattata 120  
 ccggaagaag tacccggcaca tgaaagccgg acatttactg tggccatgaa caagttcacc 180  
 atcccggata agaaacggct tatcatcgag atccaggaga ggaacggcgg ccggcatttc 240  
 ctgtacaagc tgaagaacaa gtcgctgctg acagcagagg aggtattcag aagcagaaag 300  
 caacaggaaa cggaggatga agccgacaaa atattaagga ggatagcccg atga 354

<210> 5114  
 <211> 354  
 <212> DNA

<213> B.fragilis

<400> 5114

aaccatactg	gtatggctat	gacgattgaa	caggaaatag	aacagctggt	actgcagtgt	60
atcgcatcgg	acgggctgaa	ggcctgccc	aaagaccttg	ccttccttga	gaaatacggg	120
ctgaagaacc	tatatcttct	ttccctggaa	tacgcgatgg	aagggacgga	tacgacgggt	180
ctcgacagta	aggcgaaaagg	gttgatcaga	tggtagctct	attcgacgga	ttttcccctg	240
ctgcggcaga	agtatgaacg	ggaaggaaaa	gcggagctga	tgaaatgcct	gtacctggaa	300
gagagatatt	tccgcaagtt	cctggaatca	accggacagg	aggagggatt	atga	354

<210> 5115

<211> 195

<212> DNA

<213> B.fragilis

<400> 5115

gttgtggcag	cggctccttc	cagccccgtg	gtgaagacga	tgtctgactc	attgggtggag	60
cgaaaagggg	cttccgatga	acaacaccga	aaattacttt	ataaacgtta	tggcagactg	120
actttccgcg	aaggtaaaat	cattttcctg	aatagccgtt	gtccggcatt	ctatgtgaag	180
aaggaagaga	aataa					195

<210> 5116

<211> 1548

<212> DNA

<213> B.fragilis

<400> 5116

acctctaaat	attgtacgtc	tatggatagc	attctttttt	ggcttggttc	gtttgcctct	60
gttctggctc	tctgttttgc	gctctatttt	cataaaca	tgatgaagga	gagcgaaggt	120
actccacaaa	tgattaagat	tgccgctgcc	gtgcgtcggg	gcgctatgtc	ttatctgaaa	180
cagcagtata	aaatcggttg	ctgggtat	ctcggactgg	tgattctatt	ctctgtaatg	240
gcttatgggt	ttcaggtgca	gaatgcctgg	gtaccgatag	ctttcctgac	cggagggttc	300
ttttccggct	tttcaggctt	tttgggaatg	aaaacagcta	cttacgcata	ggcgcgtagc	360
gctaattgct	ctcgtacgtc	attgaatgcc	ggattgcgaa	tagccttccg	aagcggagct	420
gtgatgggac	tggtagtggg	cggcctggga	ctgctcgaca	tctctttttg	gtatctgttg	480
ctcaattggg	cgatacctgc	cgatgtgctg	acaccactc	ataaactctg	tatcatcact	540
actacaatgc	tgacttttgg	tatgggcgcc	agcacgcagg	cgctttttgc	ccgtgtggga	600
ggtggcattt	atacaaaggc	tgccgatgtg	ggagccgatc	ttgtggggaa	agttgaggcc	660
ggtattcccg	aggacgatcc	gcgtaaccct	gccaccattg	ctgataatgt	aggtgataat	720
gtgggtgacg	tggcaggaat	gggtgccgat	ttatacagag	catattgcgg	ttccattttg	780
gcaacggctg	ctttgggtgc	ggccgccttt	attcatacgg	gcgatacggg	tatgcagttt	840
aaagctgtaa	tagctccgat	gttgattgcc	gctatcggca	tcattctttc	tataatcggt	900
atttttttcag	tacgtactaa	agagaatgct	accatgaaag	atctgcttgg	ttcgcctggc	960
tgggggacaa	acctgagttc	ggctttgatt	gtagcagcca	ctttttttat	cttgtgggta	1020
ttacaattgg	acaattggat	gtggatttct	tgtgcggtag	ttgtaggatt	ggttgtgggt	1080
attgttatcg	gccgttcgac	ggaatattat	acttcccaat	cttaccggcc	tactcagaaa	1140
ttgagtga	gtggcaaaac	gggtcctgcc	acagtcata	tttcgggtat	aggactcggc	1200
atgttgtcca	cagctattcc	tgtgggtggc	gtggtaatcg	gtattattgc	ttcctatctg	1260
ttggcttccg	gttttgattt	caataatgtg	ggaatgggac	tttacggcat	cggatttgct	1320
gctgtcggta	tgctttctac	attgggcatt	acgcttgcta	cggatgctta	tggtccgata	1380
gccgacaatg	ccggtggcaa	tgccggagatg	tcctctttgg	gtaaagaggt	gcgtaaaccg	1440
accgatgcgc	tcgattcgtt	gggaaataca	acggcagcta	ccggaaaagg	ttttgccatt	1500
ggctcagctg	ctcttacgga	gctggcattg	ctggcttctt	atatttga		1548

<210> 5117

<211> 900

<212> DNA

<213> B.fragilis

&lt;400&gt; 5117

tttccattgt	cgcaaccgct	tcggggccaag	ctcaaggatt	actctatggt	tgacaagaag	60
tttaacttct	acattgctaa	cgacctggga	cgtaacggct	actacgatca	aaagccgatt	120
gccgaattaa	tgggaactat	gggtgaggaa	ataggaccgg	aatttggtgt	ggctgccgga	180
gatatccatc	atttcgaagg	agtacgcagc	gtgaacgacc	cgctctggat	gaccaacttt	240
gaactgattt	acagtcaccc	ggaactcatg	atcgactggt	atcccgtaact	gggaaaccac	300
gaataccggg	gcaacacaca	agctgtactg	gactacagcg	gagtgcgacg	ccgctggacc	360
atgcctgccc	gttactacac	caagacattc	ggagaaaaag	gagccaccgt	ccgcatcgtc	420
tggatagata	ctgctcctct	gatcgataaa	taccgtaacg	aaagcgcaac	ctatcccgat	480
gcatgtcatc	aggatatgaa	cggacagttg	gcctggctgg	actcgggtgt	gactgttgcc	540
aaagaagact	gggtgatcgt	tgccgggcat	catccgatct	atgccgaaac	cccgaagac	600
cagagcgaac	gcagcgactt	acagagccgc	ctcgatccta	ttctgagaaa	gcataaagta	660
gatatgtaca	tttgccggaca	tatccacaac	ttccaacaca	tccgcgtacc	gggaagcgac	720
atcgactata	tcgtaaactc	tgccggatca	ctggcacgca	aggtgaaacc	gattgagggg	780
actcagttct	gcaaccccg	acccggcttc	tcagtctgct	ccattgataa	acaggaactg	840
aacctgcgga	tgatcgataa	aaaagggaat	atactttata	cggtaaccgc	gaaaaaataa	900

&lt;210&gt; 5118

&lt;211&gt; 492

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5118

ggtttagtat	tgaccagcgc	tgatccttat	agaccgcg	tgaagacgac	ccggatcaag	60
acaccgaaga	atgaggtggt	aaccattccg	aactcgttta	tcattgtcatc	ccatacagtg	120
aactatagcg	cttcggcccg	cgaatacgg	ctgattattc	actcgggaagt	gaccatcgga	180
tatgatgttc	cctggcgctca	ggttcatcag	ctattgatag	aagctgcctt	gaatactccc	240
gggggtgattg	acgatccg	tccttttgtg	cttgaaactt	cgttgagtga	ctgggtatccg	300
gtttatcaaa	tcaatgctta	tatccgtgag	gcgataaat	tggctcagat	atattcggac	360
ctgcacaga	atattcagga	tcgctttaat	gaagcgggca	tcgaaatcat	gtgcctcac	420
tatatggcta	tgcgtgacgg	caatgagtct	acgattccca	aagatgattt	gaggcccaag	480
actgataaat	aa					492

&lt;210&gt; 5119

&lt;211&gt; 1002

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (810), (911), (925)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5119

tttatcattc	tcttacctat	taagtatgag	aaaagtcttt	tttccagtct	ttatatattaca	60
ttatctcaca	ttgcctctgt	aagaggtaag	agcgtagcat	acctaataca	caaattattt	120
tctaattatt	ttccagaagc	tctgcaagct	cagcatagct	atttttaaact	catacccact	180
tcctcgggaag	gaggagatcg	cccacgaccc	gatcattcac	taaagaaaca	acaaataactt	240
aacattatga	aatcatttta	aatcatgctc	atcacgggat	tatccgtaat	gactctgagt	300
tgtagcgaga	aaacgcagac	agaaattcct	gaaacagaat	tgaaaaacat	tagttgtagc	360
acccaattag	tactcattc	atctgctcaa	accagaggag	cggcaccaac	aaccttgaat	420
gaaaacgatt	tcgtgcttta	tgcattcaaa	aaaaacggtg	aaggtaactt	tagttatgaa	480
gaagccaaac	atgaaacaag	tgctcattgat	ggcggagttt	ggaaatacaa	tgcagctttc	540
ccggtaggca	cctacaaatt	catcgcat	tataacctgg	acgagaagaa	ccaagccgct	600
ctcaacacga	ccataacagg	tatcagtaac	caaacttggg	aaaacatatt	gaagagtatt	660
gttattaccc	attttccttc	cgccaccgat	aataaccatg	aagatatgaa	tgaaatattc	720
tgtggcaaaa	caaaaagtgc	aatcgatatc	tccagtggag	tgggcggaga	tgacaatgaa	780
ataaaaatca	ataaactct	ggaacgcatt	gtatcacgca	tcgacattaa	gtttatcaaa	840
gtggcatcgg	atgacgacca	tatagaagta	ccttatgcta	ccggcaataa	tttcgggtgga	900

acaagtacta nctcgtggac ttcgntaatc ttcacatcgg ccaacgtacc tcttaaatat 960  
aatcctaata gagaaaaatcc ggattatggt acaggaggtt aa 1002

<210> 5120  
<211> 903  
<212> DNA  
<213> B.fragilis

<400> 5120  
ttaaataagta aaatcgttat ggcaaaagaa atattattca atatcgaagc tcgcgatcaa 60  
ttgaaaaaag gtgttgatgc tttggctaata gcagtaaaag taacactagg cccgaaagga 120  
cgtaaatgtga ttattgaaaa gaaattcggg gtcctcaca ttactaaaga tgggtgtgact 180  
gtagcaaaag aaattgaact gacagatgct taccagaata ccggtgcaca gttggtgaaa 240  
gaagtggcct ctaaaacagg tgatgatgcc ggtgacggta caactactgc aactgttttg 300  
gctcaggcta ttattgctga gggctctgaag aatgtaactg ccggtgcaag ccctatggat 360  
attaaacgtg gtatcgataa ggcggttgcc aaagtgggtg attctattaa acaccaggca 420  
gagaaagtgg gtgacaacta tgacaagatt gagcagggtg ctactgtttc tgctaacaat 480  
gatccgggta tcggtaaaact gattgccgat gctatgcgta aggtttctaa agacgggtgtg 540  
attactatcg aagaagctaa aggtactgac actacaatcg gtgtgggtgga aggtatgcag 600  
ttcgatcgtg gttatctgtc agcttacttt gtgactaaca cagagaaaat ggagtgtgag 660  
atggagaaac cgtatatcct gatttacgat aagaaaattt ctaatctgaa agacttcttg 720  
cctatccttg aaccggccgt tcagtctggt cgtcctctgt tgggtattgc agaagatgta 780  
gacagtgaag cggtggctac actggtaggg aaccgtctgc gttctcagtt gaagaactgt 840  
gcagtgaag ctcggggatt cggtgaccgt agaaaaaaga tgggtggaaa atttcccttt 900  
tga 903

<210> 5121  
<211> 282  
<212> DNA  
<213> B.fragilis

<400> 5121  
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gaagaaaaaa caattggtgg tatcattatt cctgatacag caaaagaaaa acctttgaag 120  
ggtgaagtgt tggcagttgg tcacggtacg aaagacgaag aaatggtatt aaaggcaggc 180  
gatactgttc tttatggaaa gtatgctgga acggaacttg aagtagaagg taaaaaatac 240  
ctcattatgc gtcagagcga tgttctcgct gttttgggtt aa 282

<210> 5122  
<211> 372  
<212> DNA  
<213> B.fragilis

<400> 5122  
agcacctgct ctccctgctg ggcatttacc gtagacggga gccgggcatg cagcctgaat 60  
gtggaagccg taccgacaga gggcacatac gactttacag gcggtacatt gtccgtaaac 120  
gaggaagcgc gcaccgtttc ttccaaggag aacatgctgc tgctcctgcc cggcaggcctt 180  
gaagagagga gagcgcagat ccgctatctg gaccggacct atgactggta tcttccggca 240  
aacacctttg aagccggtaa aagatatgat tacgcgttga ccctgagcaa ggaaggggtg 300  
ctcatactct ccggtgtgag tgcccgtccc tgggaaaacgg gaggagacta taccggaacc 360  
atacaaccct aa 372

<210> 5123  
<211> 684  
<212> DNA  
<213> B.fragilis

<400> 5123  
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cttccagggg aaaggaaaaa cctgccttgc aggaaaagaa ggaagaggaa gtacggcccg 120
ggcagcgcaa agccatggat agtgtgcccc gggcaccgac ccgcagggga ttcaacacgg 180
tccggctcgt caggcaggaa gagaggaatg tcatcaaggc attcgtgcac tccacacaga 240
ccggtatggt cgggttccac cctcaagatg cagctggccg agaattgcct gaccgatgac 300
gggcagcgca tccgtaaagg gactcccgtg ttcggggagg tgacggggcat cgacggggag 360
cgcgttcttg taaagatcac ctcggtaaac ctgggtggaa acatacttcc ctttgaaaag 420
caggttttatt ccgaggacgc aatacaagga atctatgtac cgggcaatgt gaaggcggag 480
acagcacagg aagccggagc ggcgggaata agcgggtgca acaccaatat ctccggagga 540
ttcgatatgg gaagccagct cgtggcaggc gcggccaaac gcgtcatcaa cgccaccaag 600
tcggcagcaa gcaagaatat ccggaaggta aaggtgacaa tcaagaccaa ctaccgcata 660
ctgctcaggc agccgaaaga gtga 684

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<210> 5124

<211> 183

<212> DNA

<213> B.fragilis

<400> 5124

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atggaaactg cgtttgcggg ttatgggatg gatccggatg ccaaagccgc tgctcttctt 60
gaacctgtct ttcaggggac aggcgagcgg gatcttgtcg gatactccgt accgggagag 120
tatatcccgg tagttttcca gtgtctccag gcgttcgcac ctgtccagtg ccttgtcgag 180
tag 183

```

<210> 5125

<211> 984

<212> DNA

<213> B.fragilis

<220>

<221> unsure

<222> (135)

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5125

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gacggcgagc attcnggggc acagctgaat atcgtacctc ccgtaagtcc cgaaagcacc 180
gaaacaaggg ccagttttcga tcccaagaca gattggggcg caggcgacgg cgctggcctg 240
ttcatgtaca aagtccacgg ctgggggagc gcctaccgcg gttatgatgc ccagaacaac 300
aagtcgacca ggcaggcgaa cggttggtca caggccagcc cgggtgtacct gctggtagac 360
aaggccacca tatgggccta ttatccgtat aaccaggccg tgacggacgg taccaaaata 420
ccggttcccta tcaatgtcgg cagctccgtt gattacatgt ggggcaaaag cactaaccag 480
gtatccgtga tcgagaccga tgccagaata ccgatgaagc atgcgctttc acagtttgtg 540
gtgcggctga aagtctcacc cgagtaccat aacgacggaa acctgacctc ggccaaactc 600
aaggcaacgg cctccaagtt cgccactacc ggaaccatga acctgaacga cgggggaaaa 660
attacgttcc aacctaccag caggagctg acctggagcc cgaatacaac cgttccggca 720
cagggacagc aggcggtgga ttatgcccg gccatctacc cgatgacact ggccgcgggc 780
gaagtgtcgc ttgaagtggg gatcgacggg gcgacctata cctatgccat cccgcaaata 840
acctgggagg cgggaaagag atacatctac tcgatcacca tgcgttccaa cgatgcggag 900
atcggaggaa agaacggaca gtctgtaacc atagaaggct ggacttccac tgaagaagac 960
atcacccttg ttccggtcaa atag 984

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<210> 5126

<211> 675

<212> DNA

<213> B.fragilis

<400> 5126

```

acaaatgggt ataaattata taatgaaact ttcatgaaag caaccaaag cataactcaat 60

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gccaccccg	gctttccgga	aaatacgtcc	ggtttcttct	tccgtaccta	tgaccaacaa	660
tacgagctct	tatga					675

&lt;210&gt; 5127

&lt;211&gt; 1194

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5127

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atcaccaccc	tgcttctgct	gtttttcctt	tcagggagag	cgcagaagat	cgagggaactc	120
accgcagtec	ccctgcagat	cgggtatgaa	aagaccttgc	acctgatctt	ccctaccgag	180
gtgaagtatt	acagcatcgg	aggggattac	gtcatcgggt	agaaagtggg	caattgccc	240
gggatcatat	gcctgaaagc	ggcgggaagag	aacttcccgg	gggaaacaac	cctgtcgggt	300
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&lt;210&gt; 5128

&lt;211&gt; 228

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5128

acaacaacta	aaaacaaaaa	ttacaataga	atggaaacta	tttgggaaaa	agtggattac	60
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cctcttttatg	cttcacgcca	cgaacagtca	gggcaaagaa	gtgatgaaaa	ggcatctgtg	180
gatggagaag	aaaaagtccc	ggataatggt	ccggaacctg	aaaagtaa		228

&lt;210&gt; 5129

&lt;211&gt; 2433

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5129

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cagccggagt	gctattccct	ttccccgga	gacatcgacg	aaagggacgg	gatgtaccgg	180

gaagccttca	ggcacatgcc	cgacggtgcc	tacgtacaca	aacaggatgt	attccttaaa	240
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gaggccatcg	aagaatatat	aaacgaacat	taa			2433

&lt;210&gt; 5130

&lt;211&gt; 582

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (481)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5130

agccgacaaa	atattaagga	ggatagcccg	atgaaactac	tgctgcccct	attgcttttc	60
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gacaagatcc	cgctcgccctg	tcccctgaaa	gacagggttc	ggaagagcag	cggctttggc	240
atccggatcc	atcccataac	cggcaaacgc	agttttccatt	caggatttga	catggccgta	300
ggactggcag	ccccggttta	cggccaccgc	tccgggaacgg	tttctttcgc	gggaaggaaa	360
gggggggtacg	gaagatgcgt	cattatacgc	cattcttatg	gctttgaaac	gctgtatgcc	420
catctggccg	cctattacac	caccgaaggc	caaaaagtcg	acaaaggggc	tgtaatcgcg	480
nttgccggga	gcacgggtaa	aagtaggggc	taccacctgc	attatgaaat	cagaaaaaac	540

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582

<210> 5131

<211> 615

<212> DNA

<213> B.fragilis

<400> 5131

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<210> 5132

<211> 222

<212> DNA

<213> B.fragilis

<400> 5132

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gagggaaatc	tccttgccgg	aacagcccgt	aagggccgcc	ggcaaaagaa	acatggctat	180
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<210> 5133

<211> 423

<212> DNA

<213> B.fragilis

<400> 5133

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ctgggaaacg	ggaggagact	ataccggaac	catacaacc	taaaaacaac	catcatgaaa	120
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aaccggggaa	cacgcaggga	cggcctgttt	gccctgggct	ggatatgtgg	tttctccctg	360
cttgccgggag	tcgtgataac	agcggccaaa	gccgcaatat	ccggcattaa	actgaccata	420
tga						423

<210> 5134

<211> 189

<212> DNA

<213> B.fragilis

<400> 5134

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cgcgacatac	tctttctaag	cttctattgt	ggatttattc	taatactgtc	tatacacaga	120
agtgatgaaa	aggcatctgt	ggatgaagaa	gaaaaagtcc	cggataatgg	tccggaacct	180
gaaaagtaa						189

<210> 5135

<211> 1305



<212> DNA  
<213> B.fragilis

<400> 5135

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gcatacctga	aaattatcag	ttactccgca	agtttgaagg	ctttctctac	aaagatatcc	1260
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<210> 5136

<211> 465

<212> DNA

<213> B.fragilis

<400> 5136

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<210> 5137

<211> 852

<212> DNA

<213> B.fragilis

<400> 5137

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<210> 5138  
 <211> 1647  
 <212> DNA  
 <213> B.fragilis

<400> 5138						
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gtgaccctta	cacaggcgga	aagcggaaag	acactgacac	tgaccgtcag	acagaagggt	1620
aaaacttcaa	ttgatatcaa	tccttaa				1647

<210> 5139  
 <211> 447  
 <212> DNA  
 <213> B.fragilis

<400> 5139						
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ggtgcctttg	cccgggtggg	actctttttt	aagggaataca	tcctgtttgt	gtacgtaggc	180
accgtcgggc	atgtgcctga	aggcttcccc	gtacatcccc	tccttttcgt	cgtatgtctt	240
cggggaaagg	gaatagcaact	ccggctgccg	gagctcgaac	gggatacata	tgctgccgct	300
ccgggtcagg	atcacgcttt	gtccatcgga	ctcgtcgata	atgtcaagta	tgctgtatgc	360
ctcttctct	ttcatcttgt	ttcttcttca	gaagttgtct	gtttatgggt	aagttactca	420
cggctatgcc	gtacttcgat	tccttga				447

<210> 5140  
 <211> 615  
 <212> DNA  
 <213> B.fragilis

&lt;400&gt; 5140

ccaacaatac	gagctcttat	gacacgggac	gggaaaagca	gaatagccat	actggcgggc	60
ttggggattg	tagttgtcct	gctgggtgtg	gcattcatcg	ccagcctgcc	ggcctctggg	120
agcaaggagc	cggaacagg	tgaggtgatc	ctcagaaccc	ggatcaagga	tagctttact	180
ctggatgaca	tgctccagaa	agtcgggaaa	gagaacacaa	gcaaatacgc	ttccctttca	240
ggtttcgacc	cggtaacgga	ggagcctgcg	gatacggccg	ggaatgaaag	ggagatccgg	300
cgcatacagg	agctgatccg	ggataacgag	cgggagctcg	gagcgggaat	tacgggtccc	360
gtacaacagc	cggttgtctt	caggggaaag	gaaaaacctg	ccttgcagga	aaagaaggaa	420
gaggaagtac	ggccccgggc	gcgcaaagcc	atggatagtg	tgccccgggc	accgaccgcg	480
aggggattca	acacgggtcc	gctcgtcagg	caggaagaga	ggaatgtcat	caaggcattc	540
gtgcactcca	cacagaccgg	tatggtcggg	ttccaccctc	aagatgcagc	tggccgagaa	600
ttgcctgacc	gatga					615

&lt;210&gt; 5141

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5141

aacaagaaac	gtatgaagaa	attatgctta	tccttaatcg	tgatgatgac	ggcagacacc	60
gtatcggcac	aatgggccgt	gacggatgcc	ggcaatttga	gccagaacct	taagaacttg	120
aaggagctgc	atagacaagt	gggtacacct	aaggaaacaga	agagcctgct	ggacgagagc	180
ctggacatga	tgcgcaagg	caactccgtg	gtgtcggact	gtgagacgac	ccggtatatt	240
atcgaacgcc	aggcaaggct	ctccgaaaaa	tgctcgcgac	tgctcagcgg	gaagcagctg	300
aaccctctga	cactgcagac	actcatcggc	agtattgaac	agatcatggc	cggaacacaga	360
cgcctgatac	agctgtcgag	aacgattctc	tccacaagcg	tgaggatgaa	tgacgccgag	420
cggctgtcca	ccctgcagaa	catagagaga	cagacccttg	aggaggaaag	gaaaatagcc	480
aggatctccc	aggtaataag	ccagtacgaa	cagctcaaaa	gggcattgag	gtaa	534

&lt;210&gt; 5142

&lt;211&gt; 456

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5142

gcattcacca	taatcaacat	tatgccacac	aattataatc	agttattgaa	agaccttgaa	60
ataggctccg	tttatatcaa	gatctttatc	tgcttttttg	gatgtacttt	catgttatat	120
ccagctttgt	tttatattac	ccatttcttc	cgagaacctt	ccgtatatga	gcagatattt	180
ttcgacattg	gcagttccgc	tttatatacc	ggattgggag	ttccgctttc	aattacaagt	240
gccataagat	atccgggagt	attctatctt	cctttaatgc	tactgtcagt	ttcggttaata	300
gcaactattt	acatagtctt	ctttatggcc	aggagttatg	atcctcttac	gacattatta	360
tggatcctgc	ctacaagcta	cctgctcaat	ttgattacag	gtgtcatttc	tatcttgagg	420
gagaaaaaat	atcctaagac	tgagatgtat	tattga			456

&lt;210&gt; 5143

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5143

gagctcgtat	tggttggtcat	aggtagcgaa	gaagaaaccg	gacgtatttt	ccggaaagcg	60
cggggtggca	tggtatggcg	taccctcact	caggatccgc	actttcctgg	tctcatcgcc	120
gttgatgatg	ctcaggatgg	aggagaacct	gacatggtag	tcctcaccgt	cggcgcgtat	180
gtcgatgatc	ttttcaaact	ccgtcttgta	gacaactccg	agttccaacg	catcgccata	240
ggcacgggtc	gcctgggtatt	tggaacatac	aagtatttgc	tccggcttat	tgaccaggaa	300
cagggcacgg	gcacgggtttt	cctgaaggga	aagcctgtcg	aagctgttca	ggaaataggg	360
cgtccggcgg	cagtggtctt	tcaggaggct	ttcgtacagc	aggtcctgct	gcattggactt	420
gaaatggacg	aattccccgc	cttcgttgac	caccagtatc	ttgttcatcg	cattgttcac	480

cacgctgtgc	gccaagaaca	ggaccatcgc	gatggttatc	cgcagaaaa	tgaataccag	540
cctgggtgcg	agcgtatagc	tcttctctgg	ttcggccagg	cggagaaat	ccttgagtat	600
gctttgtata	ttgagtatgc	ttttgggtgc	tttcatgaaa	gtttcattat	ataa	654

&lt;210&gt; 5144

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (208)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5144

aatttccata	aaagaagacc	caaccaaagc	aattttttta	agaaagaacg	agatccacgg	60
attctctatt	tacaagtctg	ccaacaggga	cagccgcaag	ccaaggagcg	attccgggac	120
ttgtttgtca	tgggtgtct	gaccgctcta	aggtattcgg	attattcgac	attgacccaa	180
gacaacctgc	aaggatgttt	catagtcnag	cgtaccagga	aaacgaatgt	ggatgtaaag	240
gttcctgcac	atgattatgt	caaagagata	tttgagaagt	acgacgggga	tattccgaca	300
gggctatgta	tccagcactt	caacaaatat	cttaagggtga	tcatgcgtga	aataggcttg	360
actgacaaag	tttcttattc	atttacccaa	ggcgggaaac	tgcatacggg	aactaaagag	420
aaatgggagt	taatcagcag	tcataccgcc	aggagatcgg	ctgccacgaa	tatgtatctg	480
accggccgca	tgaaaacatt	ggagatcatg	aaactcacca	gacaccggag	tgagcataac	540
ttcttccggg	acatacgggt	aacgggtgat	gataccgcca	gatccataag	cggagatatg	600
tttttcagaa	aataa					615

&lt;210&gt; 5145

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5145

cgaatttttaa	aaattatcac	catgaaaaaa	tttattgaag	tttcaacaga	aaatggcaaa	60
tttcttgtga	atgttaacac	tatcagttgt	ctgtacacta	taaaagacgg	ccgtacgcgc	120
attacactca	cagcgccgtc	gtccaagggg	gacatcttta	ttaacgctca	agaatcttac	180
gaagaagtta	aggctttgat	taaggctgct	ctttaa			216

&lt;210&gt; 5146

&lt;211&gt; 240

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5146

gatatgaata	tagatacaga	gtttaatgta	ggtgatagtg	tatgctatct	aagtggagac	60
aatatctgtc	attccactat	aagcaaaatt	actattgaaa	tatcctatac	agatcgcagt	120
ttttctatgg	tatacaaact	ttctgacgga	ttaagtgtgc	cgagaaacaa	ttatccacaa	180
tgggataaaa	aacttttttag	agacaaggat	gatcttataa	gatatttatc	agaatcataa	240

&lt;210&gt; 5147

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5147

ttaaaaagaa	ttttggagaa	gagcatgaaa	tcaacagaga	tattaaaacg	tattcaaatac	60
caacatttgt	tgacatcatc	agcgggtggat	tcccttgcca	ggacatcagc	gttgctggaa	120
aaggtgtcgg	aattgtcggg	gaaagaagcg	gcttatggac	tgaaatgtat	cgagttatac	180
gggaagttag	acctaaatac	atcatcattg	aaaacagccc	aatgctcctt	attcgggggat	240

ttgaacgagt	cctatgcaac	ctttccgaaa	tcggggatga	tgcagaatgg	caatgtttat	300
caggcaccga	ctttgggtata	caacaggggtc	gggaacgggtt	atattgtctt	gcctactcct	360
gtgaaatcaa	cagcaaacgg	agcatgcaag	aatcgatatt	tcggaagccc	tacgtcttca	420
ccacggggct	ggaaggacag	cgcgtgcgta				450

&lt;210&gt; 5148

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5148

taccgccaga	tccataagcg	gagatatgtt	tttcagaaaa	taaacttggt	aaatttttaa	60
attacgatta	tgataaaaaa	aattatccgg	tatttgagaa	agcgcaaaga	tatgaaattg	120
cgcaaagtgt	gcataacgct	ggcagcaaac	gaattatctc	gcggagaggc	tatcgatgcc	180
gccaacgaga	tctacaagtg	ggttaaagag	cagccttaa			219

&lt;210&gt; 5149

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5149

tcttataaga	tatttatcag	aatcataacc	aatttagaaa	tgaagcaaag	tgaactaacg	60
cacggttctc	tatttagtgg	catagagggg	ttcgggtctcg	gtgcagcttt	ctcgggtata	120
agaactttat	ggagctgtga	gtatgaagac	tatcaaacaa	gtataattaa	aaagaatttt	180
ggagaagagc	atgaaatcaa	cagagatatt	aaaacgtatt	caaatccaac	atttggtgac	240
atcatcagcg	gtggattccc	ttgccaggac	atcagcggtg	ctggaaaagg	tgtcgggaatt	300
gtcgggtgaaa	gaagcggctt	atggactgaa	atgtatcgag	ttatacggga	agtttagacct	360
aaatacatca	tcattgaaaa	cagcccaatg	ctccttattc	ggggatttga	acgagtccta	420
tgcaaccttt	ccgaaatcgg	gtatgatgca	gaatggcaat	gtttatcagg	caccgacttt	480
ggtataaca	agggctcggga	acgggtatat	tgtcttgcct	actcctgtga	aatcaacagc	540
aaacggagca	tgcaagaatc	gatatttcgg	aagccctacg	tcttcaccac	ggggctggaa	600
ggacagcgcg	tgcgt					615

&lt;210&gt; 5150

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5150

tacattttcac	tgtggaggca	cagaccttgc	cggagaagca	atTTTTccat	ccccgaccgg	60
gtgaaatatg	ataaagattg	ttttactatc	gaaggaaagg	atatttttat	actcagtgtc	120
gcgttccatt	acttccgttg	cccgaggaa	ttgtggcggtg	accgcttccg	gaagataaaa	180
gaagccggat	tcaatactgt	ggaaacctat	gtcccttgga	attggcatga	acggaatatg	240
ccgaagagtg	tggacgacta	ttcgcaatgc	aattttgatg	atctgaaagc	atggctgcat	300
atggcacatg	aagagttcgg	attgtatacc	attgtccgtc	ccggctcctt	tatttgtgcc	360
gagtgggccc	gtggtgctta	tccgcgtgg	cttgccaaat	tttgcccggga	cagctatgat	420
accagtttct	ggcttcggag	caaccatcct	gagcacatga	aatggctcga	gcattgggtac	480
aatgctgttt	gccgggtatt	tagtgaggaa	caactcactc	gtaagcaacc	gggtgagaag	540
ggtatcataa	tggtacaatt	ggagaatgaa	tacattttact	ttgatatgga	gtccgagaaa	600
aaggaagaat	ttctgcgggt	actttcggat	gcttgcaccc	gaaatggcat	tgatgtccct	660
ctttttactt	gtgtgactcc	cgaagtgcgc	ggttctcatc	atccggtgat	cagccagctg	720
tttgacatga	ataatcaata	tgtatggtgg	aatatgcacg	aggctaaatc	gcgtatagag	780
aagttagaga	accgagtctt	cacctcgca	tggagtacca	cgggggtc		828

&lt;210&gt; 5151

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

<400> 5151  
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ggaatattat atctccttat acgaaagact tgtcgtgccg gtaaaaatca tatttcgggtt 120  
acggcagacg gactccgggg gggcacacgg ggaattgtaa cccggagata cgacggggta 180  
tttgtgcctg aagggtatct cgttccttat tccggagatg aagaagaggg agttgttgta 240  
aaggctactg cttgggaaaa cgtcatctgt acaaaaactc cgttaaaagt ggttcgggtt 300  
gaggctactt cggaacagaa acgctatgag gcttctcata ttacagatgg agatgatttt 360  
tcatggtgga ttgctgatga tgaatctcag cccagatag ttctacttga attggaacga 420  
tctgtgaatg tgtttgccag tcggattcgt tttcagaagg atagttctac ttatacccat 480  
aaagtcgaaa tttctatcga cggaaagaat tgggagactc tatacgaacg agaatgtacc 540  
ggatgggatt ttaagcctgt gcagatcggg aaggaaactga aatatatgcg ccttaccatt 600  
gagaaaagct cggagggagc agccggattg gctgaagtta cattgtatca ataa 654

<210> 5152  
<211> 1089  
<212> DNA  
<213> B.fragilis

<400> 5152  
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ccggcttgtc aaaacaagaa agcttctgcc actaaagaga ttcccttcga agctacttat 120  
accaatccac tattggcagt aggagcagaa ccatgggctg tctttcacga aggcaaatat 180  
tattacacgc aaggagccga gaataaaatt atcctttggg aaaccaatga catcaccgac 240  
ctggaacatg ctgcccggaa agaagtatgg attccaaaag aaatctccaa ctcttatcac 300  
ctctggggag cggagataca ccggattgac gggaaatggt atgtttatatt cgcagcagat 360  
gacggcaaca tggacaatca ccacatctat gtcatagaaa acagttctcc caaccggtt 420  
gaaggtgaat ttgtgatgaa aggacgaatt aaaactgaca aagacgataa ttgggcaatc 480  
catgccagta cattcgagca tcagggtcaa cgttatctca tttgggtgtg atggcctaag 540  
cgccggattg aaacagaaac tcaatgtatc tatattgcca ggatggaaaa tccgtggaca 600  
ctctcgtcgg acagggtgat gattgcggaa ccggaatatg aatgggaacg tcaatggatc 660  
tcacctgatg gcagtaaaac agcttaccac atccacgtca acgagtcgcc acaattcttt 720  
gaatcgaaga acaaggacaa agtgctgata tactactgtg ccagtgggaag ctggactccc 780  
tactattgca tcggactgct gactgctgat gccggcagtg acctgaccaa tgcggcatcc 840  
tggaagaaac aggatactcc tgtctttgag cagcaacccg aagacagtgt tttcggaccg 900  
ggtagtccct cttttgtccc tacaccggat gaaaaggaat ggtacatgct ttatcatgcc 960  
cgaaaaatcc ccaacgatgc accgggagca acagactccc gtagtccccg tctgcaaaaa 1020  
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attaaatag 1089

<210> 5153  
<211> 618  
<212> DNA  
<213> B.fragilis

<400> 5153  
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gacaatccca cttttcacag ctactacgat ccggacggag acaagcatgt agagtacacc 180  
gaaggtatat ttgtcggata tcgtggatac gataaactga aacgggaagt acaatatcca 240  
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aaaacggacg gttcggtaac agtcacctgt aaactacca acaccggaag aacggcaggc 360  
gcagaagtgc tacaacttta tgtatccaac aaagatacga cagtggaaca tccggaaaaa 420  
gaactgaaag gcttcgggaa agtatatctg gaaccgggag aaacaaagag tatagaaatt 480  
actgttccgg cagaagcatt ctacattat gatacgggta gccggagact cgtcatcgac 540  
cggggtagcc acgacatctt gttaggattt tcttcccggg atatcaaagc aaagatgtcg 600  
gtcgggattt cacgttaa 618

<210> 5154

<211> 879  
 <212> DNA  
 <213> B.fragilis

<400> 5154

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caggtg	aatc	gtaaaa	agaa	agagctt	cag	caggtg	aagg	ttgcta	aaaga	aaatct	gttg	120
cgcga	acggg	aaggtg	aaaa	ggcta	aaactg	gaagca	cagg	aaaaa	gaaaa	acgtg	agatc	180
gttgcc	cggtt	tgcaaaa	agaa	acagaa	agga	ttgcaa	agtg	agattag	taa	gaaacg	ggcgt	240
gaggcca	acc	aactaa	atgc	aaaaat	tgat	aagctg	attg	ccgaag	agat	agaacg	tgca	300
cgtaag	cggt	ctgaag	agga	agctcg	tccg	gaagcg	ggcg	cccgtc	ggaa	agcagc	tgcc	360
aaagaa	agta	aatcgt	cttc	gacggg	aggg	ggtacg	gttc	cagcaa	agaa	gaaagc	agaa	420
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caatat	gctg	tggagg	att	acgta	acgta	aaactt	gata	ataaag	gaat	tgatata	caaa	600
gggaa	accg	gtgcac	aggg	ccgtg	ctatt	tttgat	ggaa	aagtgg	ctgc	cgtgtt	ccaa	660
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ctttc	atccg	cttc	cggtg	aa	tcgggtg	at	cggta	acga	cccg	gcagg	ccg	780
at	tttctc	cg	atgg	tagtga	caatgg	acgg	gttcttc	atttcc	agtt	gcgcagg	ggag	840
agggaca	aaac	tgaatc	cgga	gccatg	ggctg	aaccg	ataa					879

<210> 5155  
 <211> 3153  
 <212> DNA  
 <213> B.fragilis

<400> 5155

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aacac	agctc	ggtg	cgcc	at	agc	atag	c	tatg	ggct	ggg	aacg	180
ggttta	aaatt	gctata	acgg	acgt	ggta	aac	aagg	ttta	caa	atgt	cct	240
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gataa	gaaga	cccgt	ctat	gg	cttt	tttat	c	agtag	tgaga	t	aaagaaa	420
gaaag	cgggt	tgat	ctgg	at	tgcc	act	tttg	ggca	aagg	at	tattgt	480
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aact	ctgg	ac	atct	atgc	ctct	cttt	ta	cagg	aa	gggt	t	600
ggta	aaatt	c	tgca	atc	ct	cttt	ttg	tctg	ccgg	ca	ataat	660
atca	actg	tt	tgct	cgat	at	ctggt	tcg	gtgc	gggg	ag	caact	720
tact	gtct	ga	acgag	cgta	cgg	caac	ctg	gact	gctata	atgc	atcccc	780
gggt	cgat	c	gtt	gtct	gct	gaac	actag	c	ttct	gg	ttgg	840
gggt	ctct	acc	tttt	tg	actt	acat	gata	aaa	aact	ttct	cac	900
cccaga	agct	tgag	cgacca	gtct	atca	aat	gat	gc	gcgat	gcaga	aggt	960
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gtct	ccactc	atca	actg	ac	cgct	tat	ccg	atag	gcgg	ag	gcgt	1200
atac	gttctt	tg	ttgt	ttgga	tggc	gag	cgt	ttg	gattg	gtact	tatgc	1260
aagg	tactc	g	acct	ccgg	ac	cgcc	atgt	g	aaat	cgt	aca	1320
aacaca	aat	tt	gcag	tga	cg	a	tg	tcct	ggca	gtat	ata	1380
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accac	agtag	ggt	caat	gg	ctct	gtg	gtt	gat	att	ctgg		1500
tgg	attgg	ta	cca	acag	cgg	gtg	gtt	cg	tttt	taata	ccc	1560
cact	tc	cagc	atga	aagg	aa	tgatt	c	g	accat	cacta	ataat	1620
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ctg	caagg	ca	atcag	tttac	agcc	caat	ct	tatt	gaaa	ca	gcaag	1920

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&lt;210&gt; 5156

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5156

gccttgaaga	tagtgtatat	gggtggatcgc	tcttttgttc	tcacttttgc	ttgggggtgaa	60
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cattga						906

&lt;210&gt; 5157

&lt;211&gt; 1950

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5157

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&lt;210&gt; 5158

&lt;211&gt; 651

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5158

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aaattcacct	caagtgcctc	tttccagtat	acccgtgtca	agtttccgtt	gaaaactccc	300
atcaccttga	tgacggacga	tgggaatagt	gaaaagacct	tcccccttac	tcaggaaaaa	360
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gtgaaacaag	tgaaagaaga	aaacgacact	ttcaaagaat	tgcatccgta	g	651

&lt;210&gt; 5159

&lt;211&gt; 552

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5159

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aatgcagatg	gtttctacaa	cccactgtct	gccgtgtctc	gccaattaca	gacaagagga	480
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attaagatat aa

552

<210> 5160

<211> 585

<212> DNA

<213> B.fragilis

<400> 5160

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cggataaaaa	agatagggca	gcaagtgcct	gattatgtgg	ctgaacacct	gaaaggggta	360
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cggcgtaatg	gatatgaagt	gctggataaa	acttatgtgc	agccttctta	tcattgcgtt	480
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<210> 5161

<211> 708

<212> DNA

<213> B.fragilis

<400> 5161

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aaagaatata	aaacagactt	tgccccgaac	gaaatcgatt	ttcgcgaagc	gatccatccc	540
aagaaagatt	ttcacccggac	agatccggaa	tttatccctc	agccttacta	tcagggtattc	600
gaagcccgcg	acgggttttct	acccaacctg	agcatcatcg	acctttctgt	taatatggga	660
ccggaaagcc	tgctgatact	gcagaaaaca	tgtgccgatt	ctcaataa		708

<210> 5162

<211> 1242

<212> DNA

<213> B.fragilis

<400> 5162

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ccaaaagaca	aactcttttt	atccgaacaa	acctggcggt	ggtacggacc	ggacgatcct	120
gtcagccttt	gggatattaa	acaagccgga	gctacgggta	ttgttaacgc	tttacaccac	180
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cagactggca	actttcggaa	atacatcgag	aattataaag	aaagtttgcg	taacttggga	360
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&lt;210&gt; 5163

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5163

aatacggcaa	ccgctctgta	ccaatgtcca	ttgtcccaca	tgacaatatt	gatggaggggt	60
aacattgccca	ctcaggatga	cacaatcatc	caaggtagat	tctccggcga	tggtgggtgcc	120
gataccgggt	acacaattat	ctccgatttg	tacatcgtga	caaagtgtga	ctttatccat	180
caagaaattg	ccattgccta	ttttggtagc	attcccaccg	aaagtagccc	gactgataac	240
tacgttttgc	cggatatggg	tggtatcccc	gataatcagt	ga		282

&lt;210&gt; 5164

&lt;211&gt; 396

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5164

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tttttgggtat	tccgtaccca	gaaaagcagt	gctctacagc	ccgtaaataa	cgggggtggcg	120
gtcactactg	ccgtaaaaag	ccacactcac	aatgttccct	cttttgataa	ctccgggtcac	180
gatctgtttg	acttcaatca	ggggatactg	cttaagaaat	cggtttcgga	ttcagccaat	240
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acattcaaa	aagatacttc	tacctatacc	ctccgtaaca	gagttaagcc	tgcaaaaaaa	360
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&lt;210&gt; 5165

&lt;211&gt; 765

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5165

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&lt;210&gt; 5166

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5166

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gccaaactacc	gttga					975

&lt;210&gt; 5167

&lt;211&gt; 186

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5167

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aatcctccat	ccactaccgc	cactgtaccc	gttacaagc	ttgtctcgtc	gctgatgagg	180
tattga						186

&lt;210&gt; 5168

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5168

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aaagtagagg	accaagtcta	taaagtgaac	gagcgcacat	ccaccctgtc	ttacgaaggt	780
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ctgacacaaa	cctccatgct	gggaggattc	ggaatcaa	ccatcgataa	tccggaccgga	900
gaacaaaagt	atacaccgat	ccgggtatcc	agttcatggc	tgaacgtagt	atacggacag	960
aaatggaaac	cgggtatctt	cctgggatat	gtcaagaata	tgggaacaag	cgatgccttg	1020
gcatccaatc	aagtatacgg	aacaggaacc	aatgtggacc	aagtgggtgac	agccgggtgct	1080
gaactgacct	ataatgtcaa	ccactggaag	tttggagtgg	aatataccta	tacttccgcc	1140
gcttatggct	cactgtatct	taaaaacggt	aaaatcatcg	atacacacta	cgttggtaac	1200
aaccgcacgc	taggtgtagc	catgtttatg	ttctaa			1236

&lt;210&gt; 5169

&lt;211&gt; 1587

<212> DNA  
<213> B.fragilis

<400> 5169

ctcaaaaagc	agaatatgaa	attagataga	tttattaatc	gtccggtact	atcaacgggt	60
atctccatcg	tgatagtgat	tctgggtgtg	ttaggcctgc	tgtcgtgcc	tatctcccag	120
tatccggata	ttgcccctcc	tactgtacgt	gtcaacacga	cgtatcaggg	agccaatgca	180
caaactgtat	taaacagtg	gattgctccg	ttggaggagc	agatcaacgg	tgtagaaaac	240
atgatgtaca	tgactttctac	tgccaccaat	accggagagg	cctctatcga	ggtttaacttt	300
aaacagggta	cggaccgga	tatggctgcc	gtaaacgtac	agaaccgtgt	agccaaagca	360
cagggctctgt	tgccggccga	agtaaccaag	gtagggtgtga	ttacctcaaa	acgacaaaacc	420
agtatgttgc	tgggtattctc	cctgtatagt	tccgatgaca	aatatgataa	cgaattcctt	480
gagaactatg	ctaaaatcaa	tctcgtaccg	gaagttcaac	gtgtaccggg	tgtagggtgac	540
gccatggtgc	tccgtgcaga	ctattctatg	cgtatctggg	tgaaccggga	cgtaatggcc	600
caatatcacc	tgatgcctac	cgatgtttcg	gcagcattgg	ccgaacagaa	tatcgaggct	660
gctccgggtt	cattcgggtga	acagggcaaa	cagactttcc	aatatacgct	gcgttataaa	720
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caggtgctcc	ggttgaaaga	tattgccaca	atcgagttag	gtcgtctgac	atacggattc	840
tctaacaacg	taaacgggtca	ccctgccgta	acggttatcg	tattccagac	agccgggttcg	900
aatgcgactg	ccatcatcaa	tgacatcttc	gacttgcttg	aaaaatcaga	atcgactttc	960
ccgccgggag	ttaaagtaaa	tatctcacia	aatgccaaacg	acttcttggt	tgtttctatc	1020
cacgaagttg	taaagacttt	gattgaagcc	tttatcctcg	tatttatcgt	ggtttacatt	1080
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ggtacattct	ttgtgcttta	catcatcgga	ttcagtatca	acttgcttac	cctctgtgcc	1200
atgggtactcg	ccattgccat	agtgggtggac	gatgccatcg	tccgtcgtcga	gggtgtccat	1260
gccaaagctcg	accaaggcta	taaatcagct	cggttagctt	ccatcgacgc	catgaacgaa	1320
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attgccttgt	cggcagtaaa	tgccttgaca	ctgagccctg	cattgtgcgc	catcttactg	1500
aaacccacg	atcctgatgc	taaaaagaaa	tcgatttttg	caaccgtttc	catgcttcgt	1560
tcaatgctgc	ttatgacca	gtattga				1587

<210> 5170  
<211> 855  
<212> DNA  
<213> B.fragilis

<400> 5170

cgaagccaca	agacaagaag	tctaaccctt	aaaagcaata	gtatggcaaa	cttatttagt	60
gtaaaggaca	aagtagtagt	cattaccggt	ggaacgggag	tattaggaaa	agcaattgca	120
gccacactgg	cagaagaagg	tgccaaagtc	attctcctcg	gacgtaaaac	cgaagtgggt	180
aataagattg	tagaatcaat	tctgacccaa	ggaggtgaag	cgtgttttct	gacaaccgat	240
gtactcgacc	ggaagatact	tgaacagaac	ctggcggata	tactgaaagc	ttatgggagg	300
atagatgcat	tactcaatgc	ggcaggaggc	aatatgccgg	gagctacgat	ctcacctaca	360
ggcgatatct	ttgacctgaa	aatagatgaa	ttccagaaaag	tattggatct	gaacctgacc	420
ggtacgatac	tgcgcacaca	agtattcctg	aaacccatgg	tggagcaaag	agcgggagct	480
atcgtcaatt	tctcatccat	ggctgctttc	cgccttttga	cgcgtgtggc	cggctatgcc	540
gctgccaagg	ccgggatctc	caatttcacc	gcatttatgg	ccacggagat	tgccaaaaag	600
tttggtgaag	gaatccgtat	aaatgccatc	gccccgggat	tcttcctgac	agaacagaat	660
cgtgcactac	taaccaatcc	ggacggcacc	tatacacaac	ggggacaaga	cgtaatccgt	720
caaacgccat	tccggcgat	gggacgtgcc	gaagagttat	gcggaacaat	tcaataacct	780
atcagcgacg	cagcaagctt	tgtaacgggt	acagtggcgg	tagtggatgg	aggattcaat	840
gcctttgcga	tgtaa					855

<210> 5171  
<211> 1185  
<212> DNA  
<213> B.fragilis

&lt;400&gt; 5171

acatcattaa	aaattgaata	taaagaaggt	atgaaaagta	aaattgtttt	gtttgcattt	60
tgtttagcct	tgttgtcggg	ttgcggcaaa	aagggcttca	acatgggagg	aactcccga	120
tgtgcagtag	agacattgca	gcccaccact	gtcaatctga	aaagctccta	tccggccaca	180
atcaagggta	aacaggatat	cgaaatccgc	ccgcagggtt	ccgggtttat	cactaaactg	240
aatattgatg	aaggatctat	ggtcaaaaaa	ggacagggtac	tggtcgtcat	cgatccggtg	300
cagtatgaat	ctgccgcccc	tgcagcaaaa	gccgctgtag	ccacagctaa	agcgaatggt	360
tctactcagg	aaatcactgt	aaaaaaca	cgtgaattaa	acaagaaaaa	catcatcagc	420
gactatgata	tggaaatggc	tgaaaataca	cttgcactct	caaaagctca	attggcatct	480
gccgaagccc	agctgatcag	cgctaaccag	aatctggcat	acacacgcgt	aacaagccct	540
tccgacgggt	tagccggaac	aatcccttac	cgtgtaggta	gcttggttaag	cgcttcaagt	600
ccgtcacctc	tactgtgat	ctcggacatc	actcagatgt	acgtttactt	ttcactgaca	660
gaaaaggaat	tactgaacct	gatccgtcag	gacggttctc	aaactgaatt	tctgaatagc	720
ttcccggctg	ttcaactgac	attggctgac	ggaacgttgt	atgccgatag	cggtaaaata	780
gagacggtaa	gcggagtcac	cgacccaaac	acaggtgctg	taagcatgct	tgccactttc	840
ccgaatcacg	gacatctgtt	gagaacaggc	ggtaccggta	acatccagat	tccttatagc	900
aaggagaatg	taatcggtat	ccctcaaaaa	gcaacttacg	aaatacagga	taagaaatcc	960
gtatatctgc	tccagccgga	taacactgtg	aaaaataccg	aatagaaat	attaaatctc	1020
aacgacggac	aaaactatgt	agtcactgca	ggactgaaag	ccggagacaa	aatcgttgtc	1080
gaaaacgtca	gcaccctgaa	agacgggtgt	actatcaagc	cgctcaccca	gcaggaatcg	1140
gccgaacgct	ttaaagcagc	tttggagaa	cgcaaaaatc	agtaa		1185

&lt;210&gt; 5172

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5172

tcaatgggaa	agggactcaa	atggattata	gcttttgccg	gagcaatggt	catcgactgt	60
ttgctccgcg	gctttgcttt	tacctcatgc	ctgatacctt	cggcgggtat	ggagaattcc	120
ctttttcagg	gtgaacgtat	tctggtaa	aaatggagct	acggacttcg	tgtaccctat	180
atgtcattat	tctcctacca	ccgctgggga	gaaagtccca	tacataaaga	cgacatcgct	240
gtattcaata	accctgcggg	tatcaaagaa	cccattatag	accgaagaga	gatttatata	300
agccgatgca	tccgtgtacc	gggggatacg	ttacttatcg	attcactctt	caacgtgggtc	360
gaccgtagca	cacaactcgg	accggaccgg	aaacaactat	atacgtatcc	gcaaaccaag	420
gaacagcaac	tggattcatt	gctttctatt	ctttctattg	gccctaata	actgatggga	480
caacacgaag	gaaaaaatgt	acggagcttc	agccgctatg	agtattattt	gctcgatcag	540
gctatgaacg	ggaaaagctg	gatacagcct	ttacaacaaa	gcttacagga	agaagctaaa	600
ccactcatcg	ttccgggtaa	aggaaaagca	gtccgggtat	atccgtggaa	ccggacattg	660
ttacgaacaa	cgctggtact	gcatgagggt	aaacaggcgg	agatccgaaa	cgatacgctc	720
tacatcgaag	gacgtccttc	acaacattgt	tatttcacca	aagattatta	ctggatggct	780
tccaataatt	ccgtaaatct	ttccgattcc	cgctgttcg	gtttcgatcc	gcaggatcat	840
gtcattggaa	aagcttcacg	aatctggttc	tcaaaaacag	accatacggg	aatcttttagc	900
ggataccgct	gggaacgatt	cttccaaccg	gtaaaatag			939

&lt;210&gt; 5173

&lt;211&gt; 1476

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1014)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5173

aacctattga	atgggaagac	atcgataata	cggatgcaga	aacagaaatt	gaacaatacg	60
ctaaatagga	ataaagaaaa	gaatatgaag	aaacaaatta	taggtatgtt	gtgtgcaact	120
gctctcttga	gcagctgcca	catctacaaa	tcatatgaca	gacctaaaga	tattgaagcc	180

tccggtcttt	accgggacac	agtatctgtt	gccgatacac	tggtatccga	tactgtcaac	240
ttcggaaatc	tgccttggag	agaggtcttc	accgatcctc	aactgcaagc	gttaatcgaa	300
cagggattaa	cccacaatac	agatctgctg	actgctgcgc	tgaaagtgaa	agaggcacag	360
gcatactga	tgtcagcccg	tctggcttac	gtccttcac	tccgattgtc	accacaagga	420
accatcagca	gctttgataa	gcataccgca	acaaaaacct	attcgttgcc	ggcaacagcc	480
agctgggaga	tcatctatt	cggcaagtgt	ctgaatgcc	aacgcggtgc	acaagtaaca	540
ttgttgcaaa	ccaaagcata	tctgcaggct	gtacagactc	agatcatttc	gggcattgcc	600
aatacctatt	acaccttatt	gatgctcgac	cgtcagctcg	atattaccga	acagactgcc	660
gacatcatga	agcgtaatgt	tgaaccatg	caggcaatga	aagatgcggc	tatgttcaac	720
actacctctg	caggggtgga	acaaagcaag	gctgcctatg	cacaagtact	ggcgtctatt	780
ccggctatcc	aaaagagtat	ccgtgaagct	gagaacgcta	tgtccatgct	attggcacia	840
gcaccacaga	ctatcaaacg	gggggttctg	gaagagcagc	aattacctga	agatttctca	900
gtgggcgttc	ctttgcaact	actctctaac	cgtccggatg	tgaaagcagc	cgaaatggca	960
ttggccggta	cttactacaa	tgcaaattcg	acccgtgccg	ccttctatcc	gcanatcact	1020
atcagcggct	cggccgggtt	gaccaatagc	gccggtagt	ccattatcaa	tcttggtaaa	1080
ctgcttgcc	ctgtacttgg	ttcgttacc	cagctctct	tctaccgtgg	tgcaaacatt	1140
gcccgcctga	agatagccaa	ggcacaacag	gaagaggcta	aactggcctt	ccagcagagt	1200
ttgttgaatg	cgggaagtga	agtaagcaat	gcattgtatc	aatatcagag	tgcttctgaa	1260
aaaactgctt	cccgcgaatt	acaggtagaa	tcttcagaaa	aagcatccga	atatacaaaa	1320
gaattgttta	aattagggac	gtctacttat	ctggagggtat	tgtcggccga	acagtctttg	1380
ctcagtcccc	gtttatctca	ggtaaagcag	accttcgacc	ggatgcaggc	tgtagtgcgc	1440
ctctatcagg	cattggggcg	cgggaagagaa	gattaa			1476

<210> 5174  
 <211> 939  
 <212> DNA  
 <213> B.fragilis

<400> 5174						
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tatcgcaatg	cccatgccgc	cgttttcggc	ggtgtggatg	tctatcatac	tcttttcgta	120
cgaatagatc	ggggagaatt	ccgccataag	gatgtacggg	atattcttcc	cgaaaacaac	180
cgggttcctc	acctcattcc	acaacttata	gcctccgaga	tggaacaaaac	agagcgaata	240
atcgcccttt	tcatogaaca	aggctatcgg	gagatggaca	ttaacctcgg	ttgccctttc	300
ccgatgttgg	caaaacggca	atgtggatcg	ggcatgctgc	cccacctga	taaagtggaa	360
acattactca	aacagatcga	acagtatccc	gatgtgagct	tctcagtaaa	aatgcgcctg	420
ggatgggaaa	agccggatga	atgtttgacc	ctgttgcttc	tattgaatgc	ggctccgctg	480
accgagatta	tgtttcacc	ccgcttaggt	atccagcaat	acaaaggaga	agtaaatatg	540
gagggaattta	cagctttcta	cgaagcatgc	agacatcctg	ttatctacaa	cggagacatc	600
ctgaccatag	aagatatccg	gtgcatacc	gaaaagtttc	cgaaacttac	cggagtgatg	660
atcgcccgcg	gattattggc	aaaccctgca	ttgggttggg	aatataaaga	aggcaagaaa	720
cttacgcctg	aagaatggag	agaaaagtgt	agagcactgc	acacagccgt	tttccaacac	780
tacgagacac	agatacaagg	tggcgaagca	caactggtga	ctaagatgaa	aacgttctgg	840
gagtatctgg	ccccacaaat	agaccgaaag	agctggaaaag	ctatccataa	aagcactacg	900
cttgccaaat	acaacattgc	cgtccgttcg	gcattttga			939

<210> 5175  
 <211> 1695  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (1417)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5175						
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ttgaagaaat	ataaaaaacg	tgttctcttc	ttcatccaga	aaccggtgct	gaccatcggc	120

tccgtagtag	tgggttttcgc	actgctcatc	ttcctgatga	aagtgactcc	gaccggtttg	180
gtaccgaatg	aagatacagg	aacgattatg	gcagtagtcg	atatgcctcc	cggaagctca	240
ctggaacgca	ctcaggaagt	gatgtggcag	gtagatagcc	tactggcctc	cgacccggct	300
atcgaaagcc	gtaccatgat	cgccggttat	agctttatcg	ccggtcaggg	tcccagctac	360
ggttcattta	tctgtaaaat	gaagaactgg	gatgagcgtt	ccatcgctca	acgttctgac	420
ttcgttttcag	gtatgctgta	tctgaaagcc	cgtgaagtga	ttaaagacgc	ccgcgtactg	480
ttattcgctc	cccctatgat	tccgggttac	agtgtatcca	acggtttcga	aatgaactta	540
caggataaga	caggcggtag	tctggataaa	ttctatgaag	tagctcagga	ctttatcacc	600
aagctacagg	cacgccccga	aattcagtcg	gcacagactt	cgttcaaccc	gaacttcccg	660
cagtacatga	tcgatatcga	tgcgcgtgct	tgtagaagag	ccggattatc	tccgagcgac	720
atccttacta	ccctgcaagg	atattacggg	ggctctatatt	cgtccaactt	caaccgggtc	780
ggtaagatgt	accgtgtaat	gattcaggcc	gatccgaaca	gccgtaccaa	tctggagtca	840
ctgaactcgg	ttaaagtacg	caacggcaac	gagatggctc	ctatcactca	gtttatgagc	900
gttaaacgta	tttacggacc	ggacaacatc	aagcgtttca	acatgtttac	ggcgatgact	960
atcaatgggt	cgccggctga	cggatacagt	tccggtcagg	ccatccaagc	catgcaggaa	1020
gtggcagaac	agacgttgcc	taccggatac	ggatatgaat	tctcgggtat	gaccogtgaa	1080
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ataccgttcc	gtctggcagg	tagcttcatt	ttcgcccacc	tgatgggatt	ggcaaacaat	1260
gtccttccga	tactgggagc	agctaccaac	aacatttata	tgcagatcgc	attgatcatg	1320
ttgatgggtc	tggtggcaaa	gaacgccatc	ctaattgtag	agtttgctct	cgaccgtcgt	1380
aagatgggta	tgagtatcac	ttgggctgcc	gtattgngtg	caggtgcccg	tctccgcccg	1440
atcctgatga	cttcattggc	catggttgct	ggcctgttgc	ctttgatgtt	tgccatgggc	1500
gtaggtgcc	atggtaaccg	tgctttgggt	acggctgcgg	taggcgggat	gtttatcggg	1560
atgatatgcc	agatattcgt	ggttcctgct	ttgttcgtta	tcttccagta	tctacaagag	1620
aaggtgaaac	ctattgaatg	ggaagacatc	gataatacgg	atgcagaaac	agaaattgaa	1680
caatacgcta	aatag					1695

&lt;210&gt; 5176

&lt;211&gt; 627

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5176

aggtataaag	atatgaagaa	actgataata	ttcgatttgg	atgggtacttt	attgaataacc	60
attgccgatt	tggcacatag	tacgaatcat	gctctgcaaa	ctttgggata	tccgactcat	120
gaagtcgctt	cctataactt	catgggtggg	aacggcatca	acaaattggt	tgagcgtgca	180
ttgcccgaag	gagagaaaaa	cgaggagaat	gtgctccgcg	ttcgtaaaga	atttcttttg	240
cattatgacc	ggcataatgc	cgacgagagt	cgcccttatc	cggaattcc	ggaattgttg	300
gaaacattgc	agcataaagg	ttataaattg	gccgtggctt	ccaataaata	tcaggcagcc	360
accgagaagc	tgatagcaca	ttatttcccg	ggaatccggg	ttgttgctgt	atttgggcag	420
cgtgagggag	tgaaggtgaa	gccggatcct	gctgtgggtc	atgatatttt	gcagattgcc	480
gatgtttcga	aagacgaagt	gctgtatgtc	ggcgattcgg	gagtggatat	gcagacgggt	540
atcaatagcg	gagttacttc	ctgtggagtt	acgggggggat	ttcgcccccg	taccggactt	600
ggaatccgtc	tggccggaat	tttatag				627

&lt;210&gt; 5177

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5177

gttaaagtgg	aacaaataca	cagaaaaaaa	ggcaaacttg	taacttccgg	catgggtaaa	60
gccggacaaa	tagcgatgaa	catcgccact	acgtttttgt	cgaccggaat	tcctctgtgc	120
ttcctgcacc	ccagcgaggc	acaacacggc	gatctgggca	tcctgcaaga	gaacgacctg	180
ttattattga	tttcaaattc	aggtaaaacc	cgtgaaatcg	tagagttaac	ccagctggcc	240
cacaacctga	atccgggcct	gaaattcatt	gtcataccg	gcaatccgga	cagtcgcgtt	300
gccagcgaat	cggatgtatg	cctgagcaca	ggacatcctg	ccgaagtttg	taccctgggg	360
atgactccga	ccacttcgac	tacggtaatg	accgtcatcg	gcgatattct	cgtagtgcaa	420





ggaacacttc	cactggagaa	ataccgtgta	ccttatcagg	attatgaatt	cagtttcatc	3060
ctgacccccg	tacgccacaa	agtgaatatg	tga			3093

&lt;210&gt; 5179

&lt;211&gt; 1353

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5179

ctttatagac	tttatatcca	aaatattagt	cgcaaagata	agattttttat	tacattttgtc	60
gagcacatta	acgtcttggt	aacaatggaa	caactcctgc	actatgtgtg	gaaacacaaa	120
atcttccctc	tccatgaact	gcaaacaacc	accgggctgc	ctgttgaagt	gattgatacc	180
ggattgccga	attctgattc	cggccccgat	ttttttaatg	ccaaactaaa	aatcgggtggt	240
acgctttggg	taggtaatgt	cgaaatacat	actgcttctt	ctgattgggt	tcgtcacgga	300
catgaccgtg	acatagcgta	tgattcagtg	attctgcaca	ttgtcacaga	gatcgattgc	360
gagatatatc	gttccaatgg	ggaacccggt	ccgcaactcc	ggttaccttg	ccccgaacag	420
gtgaaagagc	attatgatga	gctttgccgg	gcagatatac	acccgccttg	ctattccatt	480
ctggaaaccc	ttcctaaatt	aacgattcac	tcctggctga	ccgctttaca	gacagagcgc	540
tttgatcaga	agaaccgaac	cataactcgg	cgactccaac	gttgcaatca	gcattgggaa	600
gatgcttttt	tcatcacgtt	ggcacgtaat	ttcggattcg	ggctgaatgg	agatgctttt	660
gagacttggg	caaactctgt	ctcgtttcgt	gccattgata	agcatcgtga	cgatctgaca	720
caggtgggaag	ctttcttctt	cggacaagcc	ggtttgattg	agggagaatc	cgccgacgat	780
tatttcagtt	ggatgcagaa	agaattccgt	tatttgcac	acaagtttga	acttcctccg	840
gtgatgaatc	cctctttgtg	gcgtttcctc	cgtcttcgtc	cgggtaactt	tccccatgtg	900
agactggcac	aattagcttc	actttattac	agagaacact	ctttgttttc	acgggtcatg	960
gaagcggaga	ctctgaaaga	tctgaaacag	atttttgccg	gtcacacttc	tgcttattgg	1020
gaagaacatt	tcatgtttgg	caaactcctc	ccacggagag	agaaaagtat	tggtgccggt	1080
gcaaaggagc	tgatcattat	caatacggtc	attccttttc	tgtatgcata	tggcctgcat	1140
aaagccgacg	aacggttggt	tgagcgtgct	gcctcattac	ttgaagaact	gaaagctgaa	1200
aataattatg	ttaccctgat	gtggagcgga	gccggcattc	cggttcagac	agcggcggat	1260
agccaggcgt	tgttacaatt	gcagaaagaa	tattgcgata	agaagaagtg	tctttattgc	1320
cgttttggct	atgagtatct	gagacataaa	taa			1353

&lt;210&gt; 5180

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5180

gagcttttca	gattgacagt	gggtgggctgc	aatgtctcta	ctgcacattc	gggagttcct	60
cccatgttga	agcccttttt	gccgcaaccc	gacaacaagg	ctaaacaaaa	tgcaaacaaa	120
acaattttac	ttttcatacc	ttctttatat	tcaattttta	atgatgttca	ttttgtggca	180
aagtggttta	tcgtgataac	cttatcaggt	atagatgaaa	actga		225

&lt;210&gt; 5181

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5181

gcctctatca	ggcattgggc	ggcggaagag	aagattaact	ttaaatacaa	tacaattatg	60
attagtccat	tagcatcgat	agcccccg	gcaaaaatcg	gaaagaatgt	gatcattcaa	120
ccgtttgctt	acattgaaga	taatgtcgaa	ataggggacg	actgtatcat	tatgccctat	180
gccagtgtgc	tgaatggtac	acggctggga	aaaggtaaca	aagtatatca	acatgccgta	240
ttaggagcag	aaccacagga	tttccactac	aaaggagaag	aaagttcact	gattatcggg	300
gataacaacc	atatccgoga	aaacgtagtt	atcagtcggg	ctactttcgg	tggggaatgt	360
acaaaaatag	gcaatggcaa	tttcttgatg	gataaagtcc	acattttgtca	cgatgtacaa	420
atcggagata	attgtgtagc	cggtatcggc	accaccatcg	ccggagaatg	taccttggat	480
gattgtgtca	tcctgagtgg	caatgttacc	ctccatcaat	attgtcatgt	gggacaatgg	540

acattggtac	agagcgggttg	cCGtatttca	aaagatgtgc	ccccatacag	cattatggcc	600
ggtaaccg	tagaatatca	cggagtaa	gccgtagt	tgcaacaaca	taaaaatag	660
agcgaaagag	ttctacgcca	catagcca	gcttatcgcc	tgatctatca	gggaaacttc	720
agcctgcagg	atgcagtgca	aaaaattata	gaccaggttc	ccatgagcga	agagatagag	780
aatatagtgg	cttttgtcaa	agagtctaag	cgtggaatcg	taaaatag		828

&lt;210&gt; 5182

&lt;211&gt; 1302

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5182

acgacaataa	gtttttattgt	atTTTTgtgt	cctcaaccta	acttaatagt	agaatgaag	60
cagttaagta	cccgtgcaga	aatgcaatat	aatatacata	ccctgtccaa	tggaacttcgc	120
attattcatg	aaccctcttc	ttcgaagggtg	gcttattgcg	gatttgccgt	agatgccgga	180
accCGtgatg	aggccgaaaa	tgaacaagga	atggctcact	ttgtagagca	tcttattttt	240
aaaggtagcc	ggaaacggaa	ggcttggcat	atcctgaacc	gcatggagaa	tgtgggtggc	300
gatctgaatg	cgtataccaa	taaagaggaa	actgtgat	attcggcatt	tctgaccgag	360
cacttcggaa	gagcactgga	actgctgggc	ggatategtt	ttccattcca	cctttccgca	420
gaacgaaatc	gaaaaagaga	cagagggtgat	atcgatgaaa	tacagtcgta	cgaagacact	480
ccttcgggaat	tgatctttga	tgactttgaa	gatatgatct	tccgcaatca	tccgttagga	540
cgtaatatcc	tgggcagacc	cgatctgctg	aagaaattcc	ggagcgagga	tgccatggct	600
tttacttccc	ggttttatca	accctccaat	atggtattct	ttgtcctggg	tgatttcaat	660
tttcagaaaa	tagtccgtca	ggtggagaag	ctggttagtg	atcttcctgt	ggttacgggt	720
gagaatcagc	gtacgatacc	tccgctttat	gtacccgagc	agttgggtgt	tcacaaggag	780
acccatcagg	cacatgtgat	gattggcagt	cggggatata	atgcctatga	tgacaagcgt	840
accgcattgt	atctgctgaa	taatatctctg	ggtgggtccg	ggatgaacag	tctgtctgaat	900
gtctctctgc	gcgaacgcag	gggactggct	tatacgggtg	agtccaactt	aacgtcatat	960
accgatacgg	gagctttctg	cattttatttc	ggtaccgatc	cggaggatgt	ggatacttgt	1020
ctgaaactga	cttacaagga	gctgaaacgg	atgcgtgatg	tgaagatgac	ctcttcgcaa	1080
ttgatggctg	ccaaaaagca	actgatcggc	cagatcgggg	tcgcttcgga	taataacgaa	1140
aacaatgcgc	tgggaatggc	gaagactttt	ctgcactaca	ataagtatga	atcatccgaa	1200
tctgttttcc	ggcgtatcga	agccttgacg	gcagaaggac	tggtggaggt	agccaatgaa	1260
atgtttgcag	aggaatatct	ctctacactg	atttacagat	aa		1302

&lt;210&gt; 5183

&lt;211&gt; 1497

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5183

aagattaaca	tcatgagaaa	agcaacacgt	actcaatgga	taaagtgttc	cattgccatt	60
cttttgtatc	tgatattcct	gatttgggtg	aaaagctggg	ggggactgat	cgtagtccct	120
ttcatcttcg	acatctacat	cacaaaaaag	attccctggg	cgttctggaa	gaaatctaaa	180
aaaccgacgg	tccgtagtgt	gatgagttgg	gtagatgcca	tCGttttcgc	tttggttagca	240
gtatatttctg	taaacatcta	tgtttttcag	aattatcaga	tcccatcatc	gtcactggaa	300
aaatcgctgc	tggttggaga	cttcctctac	gtgagcaaaa	tgagttacgg	cccccggtgtg	360
ccgaacacac	cgctatcaat	gcccttggca	caacatacat	tgccgattct	gaatactaaa	420
tcctatatattg	aatggccgca	atggaaatac	aaacgtgtac	ccggattcgg	taaagtgaaa	480
ctgaatgaca	tCGtagtggt	taacttccct	gcgggagata	ccgtcgcact	gaatttccag	540
gatgcagact	tttatacatt	ggcgtacaac	atcggaagc	agattttacc	gaaccgcgac	600
gacatggaca	gCctgactcg	ggagcagcag	aagacagtgt	atgatttata	ctataatgcc	660
ggtcggaaag	agatactgtc	aaaccctcaa	cgataggtta	aagttgttac	cCGtccggta	720
gaccgcgggg	agaactatgt	aaaacgttgt	gtaggacttc	cgggagatac	actccagatt	780
atcaacgggtc	aggttatgat	tgatggcag	gccattgaaa	accCGgaaaa	cttgcaattc	840
aactattttg	tgcAAactac	cggcccgtac	atcacggaag	aaatgttccg	cgaactgggt	900
atcagcaaa	ccgaccaaag	actaaactcc	gaaggagcaa	gctatgaaga	gggactgatt	960
gagctgggat	tggacggagc	aaatgcccac	ggtggactga	atcctgttta	tcatcttccg	1020
ttaacgaaga	agatgtacga	cactctatcc	ggtaacaaaa	aattagtcgg	taagattgta	1080

atagaaccgg	aagaatactc	cggagaagtg	tatccccctga	atttaaatac	ccattggaat	1140
cgtagtgtact	acggccctat	ctggattccg	gcaaaggggtg	ccaccatcac	actgaccccg	1200
gacaatctgc	ccatttatga	acgggtgtatc	actgcttatg	aaggcaataa	actggaacag	1260
aaagaagacg	gaatctacat	caacgggtgtg	aagacaaacc	aatacacttt	ccagatggat	1320
tattattgga	tgatgggcga	taaccgtcat	aattccgcgc	actcccgcta	ttggggattc	1380
gtaccggaag	atcacgtagt	aggtaaaccg	atcgctgtat	ggttatcatt	agataaagac	1440
cgtaactggg	tcgatggtaa	aatccgctgg	aaccgcatct	ttaagtgggt	agactga	1497

&lt;210&gt; 5184

&lt;211&gt; 339

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5184

cggagttact	tcctgtggag	ttacgggggg	atttcgcccc	cgtaccggac	ttggaatccg	60
tctggccgga	attttatagg	taaacaaggc	gggaaactta	ttttgataat	ggtttgggat	120
gaaaaccaga	aaggggaacc	cggaaaaagg	cgtaaaggtc	tatgggttct	tccgctgatt	180
gaaaaagaaa	ccgatataatc	cctgcgcgta	tttgatctcc	gcccacgacc	ttgggcgagg	240
aattatccgg	gtttctatga	agataaaagg	ctgttggacc	gatcgatatt	gcgtgcaata	300
tggacgcgca	cattttttga	tataaatgtt	gcattgttag			339

&lt;210&gt; 5185

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5185

ttataccatg	taacgagaat	tcctatcttt	gcaatcagtg	ctttcagaca	aatacaaaact	60
atgtacaaga	acctgttcaa	tttactaact	attttactta	ttctgccttc	gtgcacagac	120
atgtctccta	acatttcggg	ggtttgcgaa	gagaataata	taggaaactg	tattctttaa	180
tgggaaacga	ctcctctcat	caaggggcag	gtgaaagtat	atacatccga	caatccggaa	240
ttcatacccg	aagataatcc	ggttgccatg	gccaatatct	ccgatgcgcg	aatgacgatt	300
gtgaccaacg	atccttccag	gcgcctcttat	tacatgctgg	tgttcaacga	taaatactgt	360
gtgaaagtgg	ctccccgcaa	cgtgaatatg	cccggcattc	aaaacttccg	tgacctggga	420
ggttacaaat	ccgccaccgg	aaagcatgta	cgttggggca	agctctaccg	ttcggcacag	480
atagacagcc	tgcattgctt	tgcctccagg	aaactgcaaa	acctgggtat	caagaccatt	540
ctggatctgc	gtcccgagag	cgaactccat	aatactcctc	ccttgcaaaa	gggattcaat	600
gtagtacata	tccccatcaa	cacgggcgac	atggaacata	tcctgcacgg	catacagcaa	660
gagaagatca	agacagatac	catttaccac	atggtagaag	cgatgaatcg	tgaactgggtg	720
gccaaatacc	aaaagggaata	taaagagatt	ttcgacatcc	tgctcgataa	aaacagttat	780
ccggtcgtga	ttcactgctc	gtcgggaaaa	ggacggacag	gcattgtatc	cgactgata	840
ctggcctctt	tagatgtcaa	tgcagatata	attatggaag	attaccgttt	gagcaacgat	900
tacttcaaca	tccccaaagc	ctccaaatac	gcctataacc	taccgggtcaa	ttcacaggaa	960
gccatcacca	ccctcttttc	ggcaaaaagaa	gactttctca	atgcagccaa	agacgagata	1020
gagcggaaat	acgggtgatgt	gcccacctat	ctgcgaaagg	caatcggcct	tcagtccgaa	1080
gacatacaca	ggttacgcac	catcttactg	gaataa			1116

&lt;210&gt; 5186

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5186

accatgaaag	taaagaagat	cagtattgct	aatgtggagg	tcgatgcact	tcccgaatta	60
ctggataaag	aaaagatcgg	tttccaaccc	attgataatg	tgaattggga	agcctaccct	120
tatcgctccga	aagtggagtt	ccgtatagca	catagcgatg	atgctgtttt	gttacacttc	180
aatgtaaaag	aggccagtgt	acggggccaag	tatggagaag	acgatggctc	cgtatggact	240
gattcctgtg	tggagttttt	ctctgtacct	accggcgacg	gtatctatta	taacatcgaa	300
tgcaactgta	ttggaaccat	tcttattggg	gcaggagcag	aacgcaacaa	ccgtgaacgc	360

gcttctcggg	aagtgcacaga	tcaggtgaaa	cgttggggcca	gtctgggacg	ccagcctttc	420
gatgaacgta	tcggtgagtg	caactgggag	gtggcattgg	tgattccata	tacagctttc	480
ttcaaacatc	acattacctc	tttggacggg	aaaacaatca	cagccaactt	ctataaatgt	540
ggcgacgaac	tgcaaaactcc	gcattttctc	tcattggaatc	cgatcaaaaat	agaaaagccg	600
gattttcacc	gtcccgaactt	cttcgggtacg	ttggaatttg	aatag		645

&lt;210&gt; 5187

&lt;211&gt; 1454

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1400), (1421), (1422), (1427), (1441), (1442), (1447), (1449)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5187

tgcgtatctt	tgcacccgaa	aataaagata	tacagagatt	taatgaagac	atttgaagag	60
cttggcggtt	ctccggagat	acgtaaagct	attgaagaga	tgggatacga	gaatcccatg	120
ccggtacagg	aggaagtgat	tccataccta	ttaggagaga	ataatgatgt	agtagctctt	180
gcacagacag	ggacgggtaa	gaccgcagcg	tttggcttgc	ccctcatcca	gaaaattaac	240
gtaaaaaaca	gaataacctca	atcactcggt	ctttgcccc	cacgcgagct	ttgcctccag	300
atagcaggcg	acctgaacga	ctattccaaa	tacatcgacg	ggctgaaagt	attgcccgtg	360
tacggcggtt	catccatcga	cagccagata	cgcagcctga	aacggggtatc	gcatactatt	420
gttgccacac	cagggcgact	cctcgacctg	atggaacgca	aaacgggtatc	tcttgccact	480
gtcacaaacg	tagtgatgga	cgaagcggac	gaaatgctca	atatgggctt	tacggacagt	540
atcaatgcca	tcttggcaga	tggttcgcaa	gaacgtaaca	cactgctttt	ctcggccact	600
atgagcccg	aaatagcccg	tatttcgaag	aactaccttc	acaatgcaaa	agagatcacc	660
atcggacgca	agaacgaaag	tacgagcaac	gtgaagcatg	tggtctatac	cgtacatgca	720
aaagataaat	acgccgctct	gaaacgcac	gtagactatt	atccgcagat	ttacgggtatc	780
atcttctgcc	gtacccgcaa	agagacacag	gagattgccg	ataaactgat	gcaggaaggt	840
tataacgctg	actcgttgca	cggagaactc	tcacaggcac	agcgtgacac	ggtgatgcag	900
aagttccgca	tccgcaacat	ccagatcctg	gtagccaccg	atgtagccgc	acgcggactg	960
gacgtagacg	acctgacaca	cgatcatcaac	tacggattgc	cggacgatac	ggaaagttat	1020
acgcaccgta	gcggaacgtac	aggacgtgcc	ggaaagacag	gtacatccat	cgccatcacc	1080
aattttgcgtg	aaaaaggaaa	gatgcgcgaa	atagaacgca	tcattcggtaa	gaaattcatt	1140
gccggtgaaa	tgcttaccgg	taagcagatc	tgcgagaaaac	agcttctcaa	agtgatagac	1200
gatcttgaaa	aagtaaagggt	aaacgaggag	gatatcaatg	atttcatgcc	tgagatttac	1260
cgtaaactgg	agtggctgag	taaagaagac	ctcatcaagc	gcatgggtatc	gcatgagttc	1320
aaccggtttg	tcgactatta	tcgcaaccgc	gaagaaatag	aggtgcccgc	cgatagccgc	1380
aggtcttcac	cacgggggtn	aatgccaaacg	ctattcagtt	nnttcnaac	gctgtctatt	1440
nntcctnanc	cgct					1454

&lt;210&gt; 5188

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5188

caaaggggccc	cgtttttat	ttactcacc	tttgaaacag	gaggaaaacc	gatgaagaga	60
ctggttggttc	tattgttttg	tttgggtcgt	gccgccttgt	ttatgtcagc	tgccaattcg	120
ggtgatcgtg	tactgcgtga	cagtatcttt	catgtctatc	ggtcgatgcc	tgccgacacc	180
actcggaccg	tttttgcgaa	agaggctgca	atgggacacg	ttaaagaaag	ctgggcgttg	240
gagttactgg	attcggcatt	ggtgttttgc	cgggagataa	aagatgtgga	gggtgagttg	300
gaactccaat	acgggatttt	tcgttactat	acgttcagga	tggacgggtga	gaatatggaa	360
aagacgtgtg	ccaccctgag	ggaagcgtgt	tatcgttatg	tcttcaccac	ggggctggaa	420
ggggccgctc	ta					432

&lt;210&gt; 5189

<211> 1128  
 <212> DNA  
 <213> B.fragilis

<400> 5189  
 gttatctttg ctaaccttac acaaaatata aagatgaaac agcttatatt gtcagggatg 60  
 ttcgttgtat gtggattgtc cgtatccctt gcttctgaaa agtgggctgt ggatagcata 120  
 aactggcatc gtgcagagca gaaaatgcaa gagaaggatt ttcaggatgc agcactgaca 180  
 tataaggaat tgattacgaa aggagattct ttgtttgtgg attatgccgg ccggcatggt 240  
 gaggatatgc gtgaacaata ttccattgac gagttggact tacaaaacgg aatgcagcag 300  
 aagaaaatat ggaaatttgt gtttatcacc attctatgtc tggccgtttt gttattcgta 360  
 ggacttctct atttgaggag agcggagaga aaacttctat tttccagaga agagttgcaa 420  
 aaggcaaaaa ggctggccga agagtctgtc cgtaataaga gcgtatttct ttccaatatg 480  
 agccatgaga taaaaactcc cttaaagtcg ttggcagggt tctctgaaat tttgattact 540  
 ccgggaattg acgatgaagt tcgtgcgcag tgtaatgacg tgatcagggt aaactccgat 600  
 ttattgttgc atttggtaaa tgacgtagtc gatgtttcgt gtctggatgt ggcaaatatg 660  
 agattctccg tggttccgca tgagggtgtg gctttatgcc ggaatgttgt ggagatgctg 720  
 agaaatatca aacagacttc tgcggagatg atttttgaga cagaattgtc tgctttggaa 780  
 atggaaactg atccgtgcag gctccagcaa gtattgatca acctacttgt caatgccaca 840  
 aaatttacga aggagggata tatcacattg acactgcgga taaatgaagc cggggtacct 900  
 gagtttatgg taacggatac cgggtgtgga attcccttg aaaatcaaga ggctgtattc 960  
 agtcggttcg aaaaactcaa tgaaggcatc cagggtacag ggctggggct gtctatctgt 1020  
 aagctgatca ttaatcgtat gggaggagac atccgggttg actccactta tagcaaaggg 1080  
 gcccgtttta tttttactca ccctttgaaa caggaggaaa accgatga 1128

<210> 5190  
 <211> 375  
 <212> DNA  
 <213> B.fragilis

<220>  
 <221> unsure  
 <222> (137)  
 <223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5190  
 ccgagaaata aatatgcttt tatcgtgggtg aactatgcca atggtgatat ggtaggtcat 60  
 accggtatatt acgaagctat cgagaaagcg gtatgtgccg tagacgcgtg tgtgaaagat 120  
 accattgaag cagccanagc tcaagggtac gaagctatca tcattgccga tcattggtaac 180  
 cctgaccatg ctttgaatga agacgggtacc ccgaatacgg ctactcttt gaatcctgta 240  
 ccttgtgtat acgtgacaga gaataaagaa gcgaaagtgg cagacggacg tttggcagat 300  
 gtggcgcccta ccactctgca tattttggat atggttcaac cggctgagat gacaggttgc 360  
 aatttgatta aataa 375

<210> 5191  
 <211> 561  
 <212> DNA  
 <213> B.fragilis

<400> 5191  
 aacaaattat caaatcccat gcataccacc attttagaaa ccgaacgtct ccttcttcgt 60  
 cctttccggg aaacggatct gcaagagctc tttgaatgtt gccaaaaccc aaacttagga 120  
 aataacgccg gctgggaacc acataaaaaat atcgaagatt ccaaagaggt cttacatact 180  
 gtattttatgg gaaatgaagg agtttttgcc ataattctca aagaagataa ttcactgggtg 240  
 ggttctatcg gtattattac tgaccccaaa cgggaaaata cccggacacg tatgctggga 300  
 tactggctga aagagtgcc aatgggaaaa ggtatggcct cggaagcgac acgaaccata 360  
 ttggattatg gatttaacgt actgggattg catttgattt cagcgaactg ttatccgcat 420  
 aacacccgtt cccgactttt attggaacgg aacggatttg tatacgaagg tatactccat 480  
 gaagcagaaa tgacttatga cggacatgta tacgaccatt tatgctttta tcagaaaaaa 540

ggaagagtgc ccatggacta a

561

&lt;210&gt; 5192

&lt;211&gt; 198

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5192

cacagggttc	cacaaagtga	acttaatcta	ttgataacta	acgatgctga	tctgtggcgt	60
atccgggttt	tgacacatcc	tcatttgggt	tactcgctct	at ttat tta	aaaacgaaag	120
aaaatccatc	ctgtaacatt	ggttacaaat	tatttgtatc	tcatttccga	cctttgcca	180
ctgaataata	aaagatga					198

&lt;210&gt; 5193

&lt;211&gt; 348

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5193

aatgaaaaaa	caaataagaa	tatggaacag	tcattcaaaa	agggaattgt	actccatcta	60
gcctcattag	tagaatattc	tgaagggtgga	attatcagta	agcagttaat	caaaagccct	120
gccggaaaca	ttactttatt	ctcattcgac	aaaggcgaag	gacttagcga	acacagtgtc	180
ccattcgatg	ctttagtaca	ggtattggaa	ggatctgcga	atattgttgt	aaatggacaa	240
gtttttacgg	taaatgcagg	agaaagtatt	gtatttccgg	ctaagcgcc	gcatgcattg	300
acagctattg	aaagatttaa	aatgttactg	acaatgatta	aagagtag		348

&lt;210&gt; 5194

&lt;211&gt; 1215

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5194

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&lt;210&gt; 5195

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5195

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&lt;210&gt; 5196

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5196

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&lt;210&gt; 5197

&lt;211&gt; 1290

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5197

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&lt;210&gt; 5198

&lt;211&gt; 252

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5198

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tcagcgagat	ag					252

&lt;210&gt; 5199

&lt;211&gt; 255

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5199

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aatcaatttc	tctaa					255

&lt;210&gt; 5200

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5200

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&lt;210&gt; 5201

&lt;211&gt; 1893

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5201

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&lt;210&gt; 5202

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5202

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&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5203

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<211> 963

<212> DNA

<213> B.fragilis

<400> 5204

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<211> 271

<212> DNA

<213> B.fragilis

<400> 5205

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<211> 471

<212> DNA

<213> B.fragilis

<400> 5206

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<211> 861

<212> DNA

<213> B.fragilis

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&lt;210&gt; 5208

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5208

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&lt;210&gt; 5209

&lt;211&gt; 738

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5209

aagaataatg	tattaggtaa	gtttattctt	gattttttta	atatctttgt	tgaaatcaaa	60
tcttacctca	atacgatgaa	tgtcaaaaata	gaaagtagct	ggcaacagcg	cctgcaagaa	120
gagttcgata	aaccctattt	cgaaaaatta	gtgaactttg	tcaagaatga	atacgggaag	180
gcacatatac	ttccacccgg	acatcaaatt	tttcatgtat	tcaattcatg	tctttttcag	240
aatgtaaagg	tagtcatttt	aggtcaagat	ccatatccta	atccgggaca	atattatggt	300
atatgttttt	ccgtaccgga	cgggtgtgct	attcccggtt	cactttccaa	cattttttaa	360
gagatacatc	aggatctagg	caagccgctt	cccaattcgg	gtaatctgga	taggtgggtc	420
aaacaaggag	tattcccat	gaattccgta	cttaccgtac	gagctcacga	aacagggttca	480
caccgtaata	taggatggga	aactttcacc	gacgcagtca	tcaaaaaatt	aagtgaagaa	540
cgtgaaaacc	tggtattcat	gttatgggga	tcatatgcca	aagaaaaagc	atcactaatc	600
gataccgata	aacatttaat	attaaccgcc	gtacaccctt	ctccccgatc	cgccgattat	660
ggatttttctg	gttgcaaaaa	tttcagtaaa	gccaatacct	ttttacgaag	cagaggcata	720
gaagaaattg	actggtag					738

&lt;210&gt; 5210

&lt;211&gt; 3189

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5210

aaaataaatg	tcttttttaat	caaagttagt	attatgaaaa	taaaaaaaca	cattctaata	60
cctctaattg	tattgctact	ttttggaagt	atggacgcga	tggccgcat	agagcaggct	120

atacaagtaa	aaggtaaggt	tgtagacaat	attggcggaac	ctgtaattgg	tgctaattgta	180
gttgtaaaag	ggaccacgac	cggagtgtatt	actagcatag	acggtagttt	tgccatcgac	240
gctgtaaaag	gttctactat	tgtgggtatct	tttatcggtt	atztatctca	ggaagtaaaa	300
gtaactggta	attttctaaa	tattacatta	gagaacaata	cggaattggt	agacgaagta	360
gtggtagtgg	gctacgggtg	acaaaagaaa	gccaacctta	cggtgtgctat	cgccacagta	420
ggggcgaaag	aacttgagga	ccgtcctgta	actaatgctg	ccgcagcact	tcagggttaag	480
gtagccaact	tgaatatctc	caatggagac	ggtgggtccgg	gtaagaaggc	atcgttcaat	540
atccgaggtt	atgccggact	ggacgcaacc	tacagtccat	tggttatcat	agacggtgta	600
actggttatt	tcgatgattt	gaatcccaat	gacattgaga	cgttgactgt	attgaaagat	660
gctgctgcaa	gtgctatcta	tggagcgcaa	gctgcctacg	gtgtgatatt	ggttaccact	720
aagtcaggta	agaagaatga	aaagactgtc	atcaattata	acaataattt	ttcgttcaac	780
agtcgacccg	tactacccaa	aacaccgggt	tcattggagt	tttccagact	ttttagagaa	840
gctgacatca	atggaggcgg	tagtgggtatt	attgacctgg	agacgatgga	gcgtattgaa	900
aaatattact	atgatccgac	cagtattccc	aacaacgtgc	cgcaacgaga	taatccggac	960
cgttgggctg	attggggaga	cggacgttca	aatgccaacg	aagactggca	aaaagctatg	1020
tttaagaata	accagcttaa	ccaacaacac	aacatctcaa	ttcgggggtgg	tagcgacaag	1080
actacatacg	tcattgtctct	gggatatctg	aaagacgaag	gcaaactgag	atattacgat	1140
gatcattatc	aacgttacaa	tgcgttggcc	aaaattacga	ctgacgtgac	gaagtggctg	1200
accgtgggct	tgaatgtacg	ttattcacac	gaaaagagtg	tatctccgcg	ttacggcatg	1260
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gccaatcctc	agacttcata	caccgataac	ttctggggga	ctgctaactg	agtcacaaag	1440
ccattgaaag	gttggactat	caatgcgcag	ttacctaca	acaaatggat	gaacaaacgt	1500
agttactcca	aaggtctcat	ttattcctac	tcgggtgagca	acgagcctta	ccttgaaggt	1560
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gatcattatg	ctactctcgg	tttcttcggg	cgttttcaact	atgactacaa	gagtcgctat	1860
ctctttgagt	tcgacctgcg	cagagacggg	tcttcccgtt	atgccaaagg	acaccagtgg	1920
ggaactttcc	cagctttttc	cgcgggttgg	aatgtggcta	aggaagcttt	cttcgaacct	1980
tatacttcaa	tactttccga	attacgttta	agaggatctt	ggggagaatt	gggcaatatg	2040
cgggggaaaa	attaccaata	tatctctacc	gtaccttata	acgctacgac	cgattatatt	2100
atgggtgaca	aacgaatcag	tgccttttgg	gtccttaata	tgattgccta	taatacatgg	2160
gagaagaatc	gtactttgga	cttttggcgt	gacatcgccg	cactgaacaa	tcggcttact	2220
atgtcgttcg	actggtacag	aagagatatt	atcggactta	ttacaaaggg	tgctcactttg	2280
cctgccgtgc	tgggtgtaaa	ctctcctgat	acgaacaatg	ccgatatacg	taatgagggt	2340
tgggaactga	cactcggatg	gagagaccag	ttctcgctgg	catctaaatc	attcaactac	2400
agtgtatcgt	tcaatctttc	agattaccaa	ggaactgttt	tgaaatattc	aaatcccaag	2460
gggctgatat	atgactacta	cgtaggtaag	aagatggggg	ccatatgggg	atataccacc	2520
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gatactcccc	gctataattt	tggtttttgg	ttcaatgcag	actggaaacgg	tatcgacttt	2760
tcgatgttct	tacaaggaac	catgaaacgt	gacttatggc	tgggaaggctc	tggttgccttt	2820
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gaggatggaa	gtaatccgga	tccatgggtta	ccaagactct	atttgtggag	caccagtaag	2940
aatttgcaga	aacagaccgc	ttacatggat	actggtgctt	attgccgcct	gaagaacatt	3000
cagttgggat	attcgttacc	gggagctatt	attaataagg	tagggctgga	aaaagtacgc	3060
atttacttca	gtggagataa	cctgctgact	ttctccggta	ttaacgagaa	ctttgatccc	3120
gaagctccgt	ggggcgggtgc	atatcccatc	tccaagtcaa	tttccttttg	tgttaacggt	3180
acattctaa						3189

&lt;210&gt; 5211

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5211

cggcattccag	ttcgacctca	ttccattctt	gttgagaaat	gggaaggcaa	gtgctatcgt	60
cttgtcatcc	agagacaaa	acgcaacagt	ggcgaccttg	acctgtggga	aggcgaatac	120
acttaccgat	gcattctgac	caacgattac	aagtcacga	cgagggacat	tgctgaattc	180
tacaatctgc	gtggcggcaa	ggaacgtatc	tttgacgaca	tgaacaacgg	attcagttgg	240
agcaggctgc	ccaagtcatt	catggcgaaa	aatactgtct	ttcttctgct	tactgcattg	300
tacactatth	actactag					318

&lt;210&gt; 5212

&lt;211&gt; 741

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5212

aagatgaaag	ttatgaaaga	ttataaacta	atggcggttg	gacaaattgt	agccgattgt	60
tttgattatg	caaaggtctt	caataagtat	ggtattgatt	tttgctgtaa	tggagatggt	120
tccctggctg	atgcttgccg	gaaaatgggg	atagacgcag	attgtttgct	tgaagaattg	180
aagcaataaa	aatcggaaca	gtccttaact	cttgacttta	aaagttggcc	tatagattta	240
ttagtagatt	acattttgaa	gttccatcat	cgtaatatcc	gttatcaggg	accgcaaatt	300
ctccagttgc	ttgatagggt	ttgtgaagca	catgccagaa	agcaccggga	actttatgaa	360
gtgcgtgaac	tgtttcagga	atcctggata	gatttgaaca	atcatcttac	taaggaggag	420
atggttttgt	ttccttatat	atatgattta	tttgatgcgg	tggctcaaca	tcgtcctatt	480
ccggctttcc	attgtggaag	tgtgagtagc	cctatttcgg	taatgatgag	cgaacatgat	540
gccgaaggag	aacgttttcg	caggatttcc	gggttaactc	atggatatct	ggtacctggt	600
gatgcttgta	gtagttatag	gttgctactt	gagatgttga	ggacgtttga	agataatttg	660
caccatcata	ttcatttgga	gaacaatatt	gttttcccaa	aggctataga	gttacaagag	720
aattgtgaac	gaatgtgtta	a				741

&lt;210&gt; 5213

&lt;211&gt; 204

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5213

tttgagaaaa	atggactgaa	cctacgcctg	agctacaact	ttgcatcggc	cttcatcgat	60
ggaatgggtg	aagacacctt	tcacgaccgc	tattacgacc	gcgtgaacta	tctggacgta	120
aacgccagtt	acacttttgc	gaaacactac	accctttatg	ccgaaagcaa	caaccttgtg	180
gaaacacccc	tccgctttta	ttag				204

&lt;210&gt; 5214

&lt;211&gt; 2448

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5214

agactatcag	tcattggcgg	tcattctctac	gccgacgaaa	aagcaaactg	agtaaaacaa	60
ggtacgatcc	ggggacgtat	catcgacact	tccaaacaaa	cactaccggg	tgctctgata	120
tacatcgaga	acctgaagac	aggagttatc	agtacgtaa	acggtttcta	taccttcgcc	180
aacctcaacc	cggggactta	tacggtaaaa	gtaacttatg	tgggatatgc	ccccgtagaa	240
atgaaaataa	ccattcccga	aggcaagaca	ctcgaaagag	atgtcatact	gaacgaagga	300
gtcgaattgc	aggaaattgt	aataggcggt	gcttttcagg	gacagcgccg	tgccatcaac	360
tcacaaaaga	gcagtctggg	catcaagaat	gtagtttctg	ccgaccaggt	aggcaagttt	420
ccggattcaa	acatcgga	tgactgaaa	cgtatttcgg	gtatcaactg	acagtatgat	480
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gccgatgcca	tcggcggatc	tatcaatctg	gtcaccaaga	attcacccta	taaacggacg	720
ctgacagcta	ctgcgggttc	gggctacaac	tggatcagcg	agaaagcaca	gttgaatctg	780
ggactgactt	atggcgaccg	tttctttaac	gacaaactgg	gggtcatggt	atcggcttcc	840
tatcagaatg	ccccatcggg	ttcctacgat	accgagtttc	tttgggagaa	agacgacaaa	900

ggaaacgtat	atatcaacga	ctaccaaata	cgccagtact	atgtaaccgc	tgaacgcca	960
agctattcgg	cagccttgga	ctgggatata	agcgaaaacc	acaaattgat	gtttaaagga	1020
atthttcaata	accggaacga	ctgggagaac	cgataccgca	ctactctgaa	agatatggat	1080
gaagagggga	aagcaactgt	acgcgtacag	actaaagccg	gtacgccgga	caatcgcaac	1140
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aaggaactca	ccgaacaaca	ggaagacatc	aaggaaaaag	acctgaaatt	ctccatgaac	1440
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gacgatttca	ttgtcaacca	agtgtctaca	aactacgaat	acaacggcaa	cctatacaac	2220
cgctttatcc	agcccaagaa	tgcggtgta	gccaatctga	taggtatgga	actctcttac	2280
cagcgtgatt	tcggatttat	cgctcctgcc	ctgaaatgta	tcggttttta	tggcacttac	2340
accttcactc	actcccgtgt	ggaagacttc	aacttcgaag	gacgcgaaaa	tgaaaaggat	2400
ctgagcctgc	cgggttctcc	gaagcataka	gccaatgcat	cgctctaa		2448

&lt;210&gt; 5215

&lt;211&gt; 225

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5215

ttcctagttc	ttatggaact	tggaaaatac	cccgacggg	gagtaaaagc	aaagcgaatc	60
aaaacagtag	aaataaatca	tttaataaat	tacaagtatg	gcaaaagcaa	gttggtgcaa	120
tgtaagcccc	atgtcgggca	agagagatgg	cgttttgaca	atcagtgcgg	gtgctcacac	180
aggacgtgta	gcacgaaata	cagtagttac	cgtaacagcg	gctaa		225

&lt;210&gt; 5216

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5216

agacttccgc	tgcgcaaagg	acgcccttgc	caggtgaaac	tgcgttccct	taaacttttg	60
cagccctacg	acctggacaa	ggagcaggaa	ttggtgccga	tgactccgca	gcaggcgaca	120
tggaaggtct	ttacctatth	cgacagggat	atggaactca	gggtgcagga	gttgccgggag	180
cagccgggga	tcacaggggt	cgatgtcgtg	gcaaaagagg	tgctgaccag	gccggaagag	240
ggtgatttgc	acatgtaccc	gccacocatcc	ttgcaggatg	ttgccgacag	aaggaagatc	300
atgtacacct	ataaggggaa	gctcaaatac	agaccgtatc	caccggggct	tacacaggag	360
gaggttgtaa	actacagggc	gggagtcatt	gccgtaaaga	tataa		405

&lt;210&gt; 5217

&lt;211&gt; 1200

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5217

gtgcgtatga	gtttcgagat	tatcagaaaa	accggagaga	tcgcctttgt	ggcaaacctt	60
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atcgccctttg	aggtaaaaaac	ctccgggggag	gccgaaattg	aaatccgtct	caggggttgg	120
gcacaggagg	tgtttttcagc	ctcctacgta	ccttttgggtg	acaggatcca	tttcgacatt	180
gccgaaatct	tgccagccctt	cgttacttcc	ggacccttgg	aggactcgga	ggatctgac	240
ctgcccgtat	ccggttttat	ggccgggttac	acgctcgagg	taaaagggcg	ggagaccgg	300
acactcaccg	gcaaggtgat	atgcgggggg	atcagcaaac	aggcggcaag	ggaaatggcc	360
ggcaggggaa	cggactttat	cctgaaccgg	ctcagggatt	attcatcgca	attcctcttt	420
accacgcgga	cccgcgggaa	gcatattgcg	ataagggaaa	ccgaagtctc	ccccctgac	480
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cctgaaggga	cagccggaga	agtttatgct	ttaaacatag	ggcggatccg	gcgggagttt	600
ttccacaggt	ataaccagat	cgtgtcattc	atccgggtat	tggtgccggc	cgaagaagcc	660
tttgacatct	ctttcacacc	cggggaagtg	tcagaaaacg	gactgtcatt	tctcttcaga	720
aactctttgg	gatgctatga	agtgatagaa	atgccgggga	aaatgattta	ctcccttgac	780
cgggggggatg	atgaaaacta	ccggacattc	gatgaagagg	gcggtgatta	tataaccgga	840
cgtccaaggc	ccgacctcct	gcaaaaaatg	aagctgaata	caggattcaa	gaggaaaaca	900
gagttgaaat	tcattcagga	cctgctctcc	tcggatgata	tccggtgct	taacggaacc	960
gcccgaaggc	gtgtactgg	aacttgcgaa	gagtacggtt	atgaagaacc	catgaaggag	1020
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atggacgggg	agaacgcccc	acctttcatc	gaacttctgc	ccggggaggt	ggaaataccc	1140
tcagaaggag	ggcaggtcag	ggtacgggtc	gaatcaaata	tcattgtgga	ggtggtttga	1200

&lt;210&gt; 5218

&lt;211&gt; 435

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5218

attacaagta	tggcaaaagc	aagttgggtgc	aatgtaagcc	ccatgtcggg	caagagagat	60
ggcggttttg	caatcagtc	gggtgctcac	acaggacgtg	tagcacgaaa	tacagtagtt	120
accgtaacag	cggctaaccg	aacgagacc	tcagccagta	tagcggatc	tcaggcaggt	180
gcaggggtat	tcccaaccat	ggatacaagc	aaaccggacc	tttcctcttc	ccgaggagtc	240
gttaacataa	acgggacgtc	taatatattca	aaattaaagt	ggacctgtcc	cgcaagaatt	300
atgggagtag	atatgcctat	agacggtaat	tatttttaaaa	atggcggtaa	aacggtggga	360
atattaggaa	ataatggggg	ttattccggg	gaaccccgga	cattggggcc	gtttaaactt	420
tgttggcgac	tttaa					435

&lt;210&gt; 5219

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5219

attattttttg	ctgtcagata	tatggaaggc	gaagctggca	ataataacaa	cttatttact	60
tatgctatgg	ctacaggtag	tacgaaagac	aattatctgg	ctaattggcg	gaaattcctg	120
gatgcttttg	atattgcaaa	tacgggcagt	cagcagttgg	aatacaaa	tgaaatttat	180
aatagttttg	atgtggctga	cacacgtcgt	gaagccacat	tcattgtctc	atattctaaa	240
aatactgaaa	ccaaagagtt	aactttaaga	ggaacacacg	ttcgcaaaaa	catcggttat	300
gtgaatgctc	aaggtagtcg	tatctattgt	ggggattata	ttatttatcg	tctacctctc	360
gtatatttaa	tgcttgccga	aattgagaat	atgcaggag	gagatgttgc	caaatatatt	420
aacttagttc	gtgaacgtgc	ttatagcacc	aattgggata	aggcgattta	tgggtataca	480
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cttgtctttg	tcaaagaagg	tagtatcgga	acagatatgc	ctactttaga	tgaagcgact	660
gaagcgcata	aagtcctttg	gccggtagat	aaagatttgt	tgggtaatga	ccctttaatt	720
taccagaccc	cgggatatgc	aacttataaa	aaagcagaat	ag		762

&lt;210&gt; 5220

&lt;211&gt; 1083

&lt;212&gt; DNA

&lt;213&gt; B.fragilis



&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (924), (1039)

&lt;223&gt; Identity of nucleotide sequences at the above locations are unknown.

&lt;400&gt; 5220

aaagcaatac	ttatgaagaa	aaccatcttc	ttgattttgt	gcattttatg	ttctcttggg	60
gccatggcgc	aaaagaaatc	tatcacgggt	gtgattacag	atgggtgccg	tgagtcaatc	120
attgggtgcaa	gtgtcgttga	agttgggtaca	actaatggta	ccataactga	ctttgacggc	180
aagttctctt	taacgatagc	tactgggtgct	aaattttacag	ttagctatat	tgggtataaa	240
tctcagacga	ttactgttgg	tgctgaaaat	acctataata	tagtactgaa	ggaagacaca	300
gaagtgttgg	atgaagtagt	gataacagga	tatggagggt	cacaaaagcg	tgctactttg	360
actactgcta	tctctaaatt	ggataactcg	gtacttaaaa	atgcggcctt	cagcaacgca	420
ggacaatcct	tgcaaggctc	tgtaacagga	ctccgtgttg	ttaacaaaac	aggtcaaccc	480
ggtagtgaac	cggatattac	attacgtggt	ggtgccacta	ttacagggtga	taatagtaaa	540
gcacttatcg	tagtcgatgg	tattgtccgc	aatagcatga	gcgatatcaa	tccttccgat	600
attgagtcga	ttcaagtcct	taaagatgct	gcttcaaccg	ctattttatgg	agcgcgtgcc	660
aatggcgggtg	ttatttttgg	tgagactaaa	agtggtaaag	aaggtaaagc	atctgttaac	720
tataaattca	aaatgggtgt	gaatttcgct	cgtaaagggt	atgacttttg	cgatgcgcac	780
gactacatct	actacaatcg	tttaggttac	aaaagaaccg	gacgtaccaa	tgtagatata	840
caaatgggat	atgggtattgg	taacaatcta	tttgacatcc	gttatttgac	agatgaaaac	900
gctaacttaa	agaatgaagg	ttgngcttct	atggcagacc	catttttatga	tggaaaaaca	960
attctatata	aagactactc	aggtgagttg	gatgatgttg	ttttcaataa	tagcgccttg	1020
acacaagacc	attatgtana	cattacaggc	ggtaacgata	aaagaacctt	cctgccagcc	1080
tag						1083

&lt;210&gt; 5221

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5221

gcgaaaaatg	gagagaaaag	aaagttttgt	gaatatatttc	aaacctctaa	aaatcaagca	60
tttattcttt	ttcttgtatt	agtttttagc	ctccacaaag	ggcttaaaat	gaatctttta	120
gaaggggata	aatctagtat	aaaaatcaga	ctcattcatt	tactaaagaa	tgaattaatg	180
atattttttcc	aaaatccaac	agaagtgaga	tgttga			216

&lt;210&gt; 5222

&lt;211&gt; 2256

&lt;212&gt; DNA

&lt;213&gt; B.fragilis

&lt;400&gt; 5222

ataccaccag	gggctgatat	tagcccatgg	gtatacccct	ttccaacttt	tctccgtgga	60
agaggtggaa	ttctgaccca	aataattttcg	ttacttttag	gggcttttgg	cggcatcctg	120
ttatttgcca	gggttgcat	tgcattaaac	tatgatagg	attatcaaga	accggaaaat	180
ctttttctaa	ctttacgtac	agttgtttcg	caagggtgaaa	agaaagagcc	tgtttgtagt	240
aattacggaa	aacttcacgc	agcaattcgt	gaaaattttc	ctgatgaagt	ggaagatgca	300
actttgattg	acttatttag	tcgcagtctg	ctttaccatg	aaggccagga	aaagaaagat	360
gcaatactgg	ctacttccc	aagccatatt	ttttccactt	tgggcgttaa	agtaactttcc	420
ggaaatgtgt	ctgaattgga	taatatggat	gcactgttta	tatcccgttc	tcttgctcaa	480
agtctttttg	cagatgccga	tcctatttga	aagacagtaa	tgattaatat	tgattatcca	540
ttgactgttc	gaggtgtttt	cgaagatatt	cgggaaaatg	ccgagtttcg	gtttgatggg	600
gtctattcat	ttgtgactcg	tgctaataga	ttcagagatg	aacgtggttg	atggcggggg	660
gatatacgt	atacatgtat	ggttcgtttt	gcgcattccg	aagatgtaga	gaaagtggcg	720
gcacgtatgc	ctgatatgat	gaagaagtat	atacagtata	ataaagactg	gtttgaagaa	780
ttttcgttta	taactccttc	acagtttcat	ttgcagaaaa	aggaatcacg	taaaattatc	840
agtattctat	cgattctcgg	atttgctatt	ttgctgattg	ccgggatgaa	taatgtactt	900

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atttctatatt cttctttgcc acagcggggc aaatcagtag gagtgcataa atgcagcgga 960
gcttcaaccg gacatatata tcgtatgttc ttatgggaat cggcattatt gattctcggt 1020
tctcttttgg gggttatagt cttctgtctc tattttaaac cggaaataga agacttgtct 1080
ggtgcctcat tagcaaccct gtttacatgg cgtaccctat gggttcctgc attagtaacc 1140
atttttttat ttttactgat tggcttgctt cggggaaagc ttttctcttc catccctgtg 1200
acacaagttt tccatcgttt taccgggtat cgtgcttcct ggaaatatcc gttgttggtt 1260
gtacaattta caggagttgc tttcatattg ggattgctaa tgatcattct tttacagtac 1320
aatcaagtca tgaatcgaag tatgggctat aaaatagata atttagttat aggggtgggg 1380
ccatttgatt caatggataa aatagatggc attctccggg gattgccttt tattgaagca 1440
tcttgtaata gtgcttcatt tatctataat ggtcatacaa gacaatcttt tactgatatt 1500
aacggaaaac gttttatggg gtgtatcgat tttatagatg agcattacgt cccgatttta 1560
ggtttgcaga ttttgcaggg tcgtaacgtt catcaggatg gtgaagtatt ggtaaataaa 1620
gaattgctac ggcaagtagg ttggactgat tcgcctatag gacggaaact gatggaagat 1680
aactatgaat gggggactgt ggttggggta gtcaaagatt atgtagcaca aagtgcgtat 1740
cagccacaaa cctctgtggc attggtgagt agcttggaag ggagatggga agccaataaa 1800
cggaatctga ttttgaaaga accatttaaa gagaatcttt ctaaaatcag ggctttgatg 1860
aaagaaacat ttcctacgga ggatattcag ttccgttctg ctctcagga ggctcgataa 1920
ctgtatcagg tagtacgccg tttccgcaat attgtgattg tagcttccgt ttcgattgta 1980
gtaatcgat tgatgggggt attcggattt gtgaatgatg aagtacaacg gcgcagtaaa 2040
gaaattgcc a ttcgtaaggt gaatggggct gagtcgggaa atattattaa tcttttgaat 2100
cataatattt tctggattgc tttaccggct atctttgttg gaatcgcttt agcctatgtc 2160
gtcggacata aatgggtgga acaatttacc gatcagatcg tcctgtcttc accgcgggat 2220
gtgagcgacc aaggggggtca gtaccacggg ggtcag 2256

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<210> 5223

<211> 139

<212> PRT

<213> B.fragilis

<400> 5223

```

Asn Lys Glu Arg Phe Arg Thr Ile Phe His Gln Glu Thr Asn Asp Gln
1          5          10          15
Thr Lys Ala Val His Phe Leu Leu Asp Gln Gly Lys Lys Thr Ile Ile
20          25          30
Leu Val Gly Ala Thr Gly Lys Arg Glu Asp His Thr Leu Gly Asn Ile
35          40          45
Ser Leu Leu Ile Asp Tyr Met Lys Ala Gly Ala Gln Val Thr Met Leu
50          55          60
Thr Asp His Gly Met Phe Ile Pro Ala Ser Gly Arg Asn Cys Phe Lys
65          70          75          80
Ser Tyr Pro Gly Gln Gln Ile Ser Ile Phe Asn Phe Asn Ala Thr Gly
85          90          95
Leu Arg Ala Asp Gly Leu Val Tyr Pro Leu Ser Asp Phe Ser Asn Trp
100         105         110
Trp Gln Gly Thr Leu Asn Glu Ala Thr Gly Thr Glu Phe Thr Ile His
115         120         125
Ala Glu Gly Asp Tyr Leu Val Tyr Leu Asn Tyr
130         135

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<210> 5224

<211> 611

<212> PRT

<213> B.fragilis

<400> 5224

```

Ser His Arg Ser Ile Leu Pro Ala Pro Trp Gly Arg Gln Thr Thr Gly
1          5          10          15
Phe Glu Thr Ala Ala Val Gln Lys Ser Val Ser Val Leu Pro Thr Gln
20          25          30

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Thr	Tyr	Tyr	Thr	Phe	Thr	Cys	Gly	Pro	Val	Glu	Leu	Asp	Leu	Val	Phe
	35						40					45			
Thr	Ala	Pro	Leu	Met	Met	Asp	Asp	Leu	Asp	Leu	Leu	Ser	Thr	Pro	Val
	50					55					60				
Asn	Tyr	Ile	Ser	Tyr	Arg	Val	Arg	Ser	Leu	Asp	Lys	Lys	Gln	His	Asp
65					70					75					80
Val	Gln	Met	Tyr	Val	Glu	Thr	Thr	Pro	Gln	Leu	Ala	Ile	Asn	Glu	Leu
				85					90					95	
Thr	Gln	Pro	Thr	Arg	Ser	Lys	Val	Ile	Arg	Arg	Asn	Gly	Ile	Asn	Tyr
			100					105					110		
Val	Gln	Ala	Gly	Thr	Ile	Asp	Gln	Pro	Ile	Leu	Ala	Arg	Lys	Gly	Asp
		115					120					125			
Gly	Ile	Cys	Ile	Asp	Trp	Gly	Tyr	Ala	Tyr	Leu	Ala	Gly	Asn	Ile	Gly
	130					135						140			
Ala	Asn	Thr	Ala	Val	Ser	Leu	Gly	Asn	Tyr	Tyr	Gly	Met	Lys	Asn	Glu
145					150					155					160
Phe	Ala	Thr	Lys	Gly	Ser	Leu	Leu	Pro	Thr	Gln	Ala	Glu	Cys	Val	Thr
				165					170					175	
Arg	Arg	Ala	Asp	Gln	Met	Pro	Ala	Met	Ala	Tyr	Thr	Asp	Asp	Leu	Gly
			180					185					190		
Glu	Val	Gly	Thr	Asp	Gly	Lys	Ser	Gly	Phe	Leu	Met	Leu	Gly	Tyr	Asp
	195						200					205			
Asp	Ile	Tyr	Ala	Ile	Glu	Tyr	Phe	Tyr	Gln	Pro	Arg	Met	Ala	Tyr	Trp
	210					215					220				
Lys	His	Asp	Gly	Lys	Val	Ser	Ile	Phe	Asp	Ala	Phe	Glu	Arg	Ala	Lys
225					230					235					240
Ala	Asn	Tyr	Ala	Ser	Val	Met	Glu	Arg	Cys	Arg	Ala	Tyr	Asp	Glu	Met
				245					250					255	
Ile	Leu	Asn	Asp	Ala	Glu	Lys	Ala	Gly	Gly	Lys	Glu	Tyr	Ser	Glu	Leu
			260					265						270	
Cys	Ala	Leu	Ala	Tyr	Arg	Gln	Val	Ile	Ala	Ala	His	Lys	Leu	Phe	Lys
		275					280					285			
Asp	Ala	Asp	Gly	Asn	Leu	Leu	Phe	Phe	Ser	Lys	Glu	Asn	Asn	Ser	Asn
	290					295					300				
Gly	Cys	Ile	Asn	Thr	Val	Asp	Leu	Thr	Tyr	Pro	Ser	Ala	Pro	Leu	Phe
305					310					315					320
Leu	Ala	Tyr	Asn	Pro	Glu	Leu	Gln	Lys	Gly	Met	Met	Thr	Ser	Ile	Phe
			325						330					335	
Glu	Tyr	Ser	Ala	Ser	Gly	Arg	Trp	Asn	Lys	Pro	Phe	Pro	Ala	His	Asp
			340					345					350		
Leu	Gly	Thr	Tyr	Pro	Ile	Ala	Asn	Gly	Gln	Val	Tyr	Gly	Gly	Asp	Met
		355					360					365			
Pro	Ile	Glu	Glu	Gly	Gly	Asn	Met	Val	Val	Leu	Ala	Ala	Ala	Ile	Ala
	370					375					380				
Lys	Val	Glu	Gly	Asn	Ala	Asp	Tyr	Ala	Lys	Lys	Tyr	Trp	Asp	Leu	Leu
385				390						395					400
Thr	Ile	Trp	Thr	Asp	Tyr	Leu	Ala	Glu	Tyr	Gly	Gln	Asp	Pro	Glu	Asn
			405						410					415	
Gln	Leu	Cys	Thr	Asp	Asp	Phe	Ala	Gly	His	Trp	Ala	His	Asn	Ala	Asn
			420					425					430		
Leu	Ser	Val	Lys	Ala	Ile	Met	Gly	Val	Ala	Ala	Tyr	Ser	Glu	Met	Ala
		435					440					445			
Arg	Met	Leu	Gly	Met	Asp	Asp	Val	Ala	Asp	Arg	Tyr	Ala	Ala	Lys	Ala
	450					455					460				
Lys	Ala	Met	Ala	Thr	Lys	Trp	Glu	Gln	Met	Ala	Arg	Glu	Gly	Asp	His
465					470					475					480
Tyr	Arg	Leu	Ala	Phe	Asp	Arg	Glu	Asn	Thr	Trp	Ser	Gln	Lys	Tyr	Asn
				485					490					495	
Met	Val	Trp	Asp	Lys	Met	Trp	Asn	Leu	Asn	Leu	Phe	Pro	Asn	Asn	Val

[illegible]

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<210> 5225
<211> 249
<212> PRT
<213> B.fragilis
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[illegible]

```
<210> 5226
<211> 481
<212> PRT
<213> B.fragilis
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&lt;400&gt; 5226

```

Leu Lys Leu Ser Val Leu Ile Leu Ala Thr His Gln Leu Met Leu Phe
1      5      10      15
Ile Val Gln Val Leu Val Val His Gly Thr Leu Cys Ile Asn Gly Tyr
20      25      30
Leu Leu Phe Gly Leu Val Gln Gly Phe Thr Gln Leu Ile Asp Ala Pro
35      40      45
Val Ile Ile Ser Ile Phe Gln Arg Thr Gly Gly Ile Phe Ile Asp Ala
50      55      60
Tyr Ile Ile Arg Tyr Val Ala Gln Leu Ile Val Ile Phe Ile Thr Glu
65      70      75      80
Thr Ser Gly Arg Arg Asn Leu Arg Met Asn Ser Ile Cys Thr Val Phe
85      90      95
His Ser Phe Pro Lys Ser Phe Tyr Ile Val Thr Phe Gln Ser Phe Gln
100     105     110
Ile Gly Ile Ser His Tyr Arg Ser Gly Ile Val Thr Tyr His Thr Ala
115     120     125
Pro Val Pro Gly Thr Cys Pro Phe Gly Lys Glu Ser Ala Phe Leu Val
130     135     140
Ser Ile Cys Gln Ser Leu Leu His Leu Phe Val His Arg Arg Ile His
145     150     155     160
Gln Val Glu Glu Arg Glu Gln Ala Ala Glu Cys Ile Pro Glu Thr Gly
165     170     175
Ile Gly Lys His Ile Ser Arg Gln His Phe Thr Val Val Gly Thr Val
180     185     190
Met Tyr Arg Phe Pro Phe Gly Ile Gln Phe Val Glu Ala Ser Arg Glu
195     200     205
Lys Tyr Arg Thr Ile Glu Ala Arg Val Glu Cys Thr Glu Met Ile Gly
210     215     220
Ile Ile Val Phe His Leu Asn Thr Ser Gln Asn Leu Val Pro Phe Leu
225     230     235     240
Ala Ser Phe Gly Cys Asn Ser Phe Gln Ile Val Phe Thr Gln Leu Phe
245     250     255
Gln Val Leu Phe Cys Leu Leu Gly Ala Asp Lys Arg Arg Ser His Ser
260     265     270
Tyr Val Asp Arg Leu Ser Thr Thr Cys Arg Glu Pro Asp Asp Thr Thr
275     280     285
Cys Met Phe Ile Phe Arg Phe Gln Leu Thr Arg Thr Asp Val Ala Val
290     295     300
Gly Asn Cys Cys Gly Lys Ser Glu Arg Leu Ile Glu His Gln Tyr Lys
305     310     315     320
Ile Ile Leu Lys Val Leu Arg His Ser Ser Thr Val Leu Gly Cys Val
325     330     335
Ala Asp Asp Leu Val Leu Phe Arg Asn His Phe His Ile Arg Thr Val
340     345     350
Val Glu Ser Ile Tyr His Tyr Ile Arg Ile Leu Thr Leu Arg Lys Ser
355     360     365
Glu Thr Lys His Arg Arg Thr Ala Gly Arg Ser Asn Phe Gly Arg Asp
370     375     380
Ile Met Ile Gly Gln Ile Tyr Phe Ile Ile Ile Arg Phe Gly Asn Leu
385     390     395     400
Ser Leu Met Arg Glu Pro Ala Arg Thr Leu Ile Leu Ile Glu His Asp
405     410     415
Leu Ser Arg Asn Arg His Asn Gly Lys Leu Pro Val Val Ile Asn Pro
420     425     430
Arg Ala Gly Leu Val Ser Leu Leu Lys Ser Pro Asp Phe Ile Gly Ile
435     440     445
Ile Gly Ile Ser Pro Ser Ile Thr His Leu Ser Gly Leu Cys His Pro

```

450		455		460
Glu Val His Ser Pro Arg	His Gly Asn Ser Arg	Ile Cys Ile Ser Gly		
465	470	475		480
Arg				

&lt;210&gt; 5227

&lt;211&gt; 788

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5227

Ser Phe Phe Pro Leu Ile Leu Lys Ile Lys Lys Thr Val Leu Val Arg	
1	5 10 15
Val Ile Cys Gly Glu Phe Lys Thr Ile Asn Ile Met Lys Lys Leu Ala	
	20 25 30
Leu Leu Leu Val Gly Val Leu Gly Thr Ala Phe Cys Thr Phe Ala Lys	
	35 40 45
Ser Thr Thr Glu Pro Val Asp Tyr Val Ser Pro Leu Val Gly Thr Gln	
50	55 60
Ser Lys His Ala Leu Ser Thr Gly Asn Thr Tyr Pro Ala Ile Ala Met	
65	70 75 80
Pro Trp Gly Met Asn Phe Trp Val Ala Gln Thr Gly Lys Met Gly Asp	
	85 90 95
Gly Trp Ala Tyr Thr Tyr Asp Ala Asp Lys Ile Arg Gly Phe Lys Gln	
	100 105 110
Thr His Gln Pro Ser Pro Trp Ile Asn Asp Tyr Gly Gln Phe Ala Ile	
	115 120 125
Met Pro Val Thr Gly Lys Val Val Phe Asp Gln Asp Gln Arg Ala Ser	
	130 135 140
Trp Phe Ser His Lys Ala Glu Val Ala Lys Pro Tyr Tyr Tyr Lys Val	
145	150 155 160
Tyr Leu Ala Asp His Asp Val Thr Thr Glu Ile Ala Pro Thr Ser Arg	
	165 170 175
Ala Ala Met Phe Arg Phe Thr Phe Pro Glu Ser Lys Asp Ser Tyr Val	
	180 185 190
Val Val Asp Ala Phe Asp Asn Gly Ser Tyr Val Lys Val Ile Pro Glu	
	195 200 205
Glu Asn Phe Lys Ile Ile Gly Tyr Thr Thr Lys Asn Ser Gly Gly Val Pro	
	210 215 220
Glu Asn Phe Lys Asn Tyr Phe Val Leu Val Phe Asp Lys Pro Phe Thr	
225	230 235 240
Phe Thr Ala Ala Val Thr Asn Gly Asn Ile Arg Pro Gly Glu Leu Glu	
	245 250 255
Ser Lys Asp Lys His Ala Gly Gly Ile Ile Gly Phe Ser Thr Arg Arg	
	260 265 270
Gly Glu Thr Val Asn Val Arg Val Ala Ser Ser Phe Ile Ser Pro Glu	
	275 280 285
Gln Ala Glu Gln Asn Leu Lys Glu Leu Gly Lys Asp Asn Leu Glu Ala	
	290 295 300
Val Ala Ala Lys Gly Arg Gln Glu Trp Asn Lys Val Leu Gly Arg Ile	
305	310 315 320
Glu Val Glu Asp Asp Asn Thr Asp His Leu Arg Thr Phe Tyr Ser Cys	
	325 330 335
Leu Tyr Arg Ser Val Leu Phe Pro Arg Ser Phe Tyr Glu Leu Asp Ala	
	340 345 350
Lys Gly Lys Pro Val His Tyr Ser Pro Tyr Asn Gly Lys Val Leu Pro	
	355 360 365
Gly Tyr Met Phe Thr Asp Thr Gly Phe Trp Asp Thr Phe Arg Cys Leu	

370	375	380
Phe Pro Phe Leu Asn Leu Met Tyr Pro Ser Met Asn Glu Lys Met Gln		
385	390	395
Glu Gly Leu Ala Asn Thr Tyr Lys Glu Ser Gly Phe Leu Pro Glu Trp		400
	405	410
Ala Ser Pro Gly His Arg Gly Cys Met Val Gly Asn Asn Ser Ala Ser		415
	420	425
Val Val Ala Asp Ala Tyr Leu Lys Gly Leu Lys Gly Tyr Asp Ile Glu		430
	435	440
Thr Leu Trp Glu Ala Val Lys His Gly Ala Asn Ala Val His Pro Gln		445
	450	455
Val Ser Ser Thr Gly Arg Leu Gly Tyr Glu Tyr Tyr Asn Gln Leu Gly		460
465	470	475
Tyr Val Pro Tyr Asn Val Gly Ile Asn Glu Asn Ala Ala Arg Thr Leu		480
	485	490
Glu Tyr Ala Tyr Asp Asp Trp Cys Ile Tyr Gln Leu Gly Lys Ala Leu		495
	500	505
Asn Lys Pro Glu Glu Glu Ile Ala Val Tyr Ala Gln Arg Ala Met Asn		510
	515	520
Tyr Lys Asn Leu Tyr Asp Lys Glu His Lys Leu Met Arg Gly Lys Asn		525
530	535	540
Lys Asp Gly Gln Phe Gln Ser Pro Phe Asn Pro Leu Lys Trp Gly Asp		545
545	550	555
Ala Phe Thr Glu Gly Asn Ser Trp His Tyr Thr Trp Ser Val Phe His		560
	565	570
Asp Pro Gln Gly Leu Ile Asp Leu Met Gly Gly Gln Gln Gly Phe Asn		575
	580	585
Gln Met Met Asp Ser Val Phe Ile Leu Pro Pro Val Phe Asp Asp Ser		590
	595	600
Tyr Tyr Gly Gly Val Ile His Glu Ile Arg Glu Met Gln Ile Met Asn		605
610	615	620
Met Gly Gln Tyr Ala His Gly Asn Gln Pro Ile Gln His Met Leu Tyr		625
625	630	635
Leu Tyr Asn Tyr Ser Gly Gln Pro Trp Lys Ala Gln His Trp Ile Arg		640
	645	650
Glu Val Met Asp Lys Leu Tyr Thr Pro Asn Ala Asp Gly Tyr Cys Gly		655
	660	665
Asp Glu Asp Asn Gly Gln Thr Ser Ala Trp Tyr Val Phe Ser Ala Met		670
	675	680
Gly Phe Tyr Pro Val Cys Pro Gly Thr Asp Gln Tyr Val Met Gly Thr		685
690	695	700
Pro Tyr Phe Lys Gln Met Lys Leu His Leu Glu Asn Gly Lys Thr Val		705
705	710	715
Gln Ile Ser Ala Pro Gly Asn Ser Asp Glu Asn Arg Tyr Ile Ala Ser		720
	725	730
Met Thr Val Asn Gly Lys Thr Leu Thr Arg Asn Tyr Leu Thr His Lys		735
	740	745
Glu Leu Met Asn Gly Ala Lys Ile Thr Met Lys Met Ser Ser Thr Pro		750
	755	760
Asn Lys Gln Arg Gly Val Arg Glu Ser Asp Phe Pro Tyr Ser Phe Ser		765
770	775	780
Lys Glu Val Arg		
785		

&lt;210&gt; 5228

&lt;211&gt; 837

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5228

Met	Val	Lys	Thr	Ile	Lys	Lys	Glu	Ser	Glu	Val	Met	Lys	Leu	Lys	Leu
1				5					10					15	
Ser	Thr	Leu	Phe	Leu	Gly	Ala	Ala	Ala	Met	Leu	Ser	Ser	Cys	Gly	Ala
			20					25					30		
Ser	Gln	Asp	Val	Lys	Ser	Glu	Lys	Ser	Glu	Met	Arg	Ala	Pro	Ala	Tyr
		35					40					45			
Pro	Leu	Val	Met	Ile	Asp	Pro	Tyr	Thr	Ser	Ala	Trp	Ser	Phe	Thr	Asp
	50					55					60				
Asn	Leu	Tyr	Asp	Gly	Pro	Val	Lys	His	Trp	Thr	Gly	Lys	Asp	Phe	Pro
65					70					75					80
Phe	Leu	Gly	Val	Ala	Lys	Val	Asp	Gly	Gln	Ile	Tyr	Arg	Phe	Met	Gly
				85				90						95	
Thr	Glu	Glu	Leu	Glu	Leu	Leu	Pro	Leu	Val	Lys	Thr	Ser	Glu	Gln	Gly
			100					105					110		
Arg	Trp	Thr	Ala	Lys	Tyr	Thr	Thr	Lys	Lys	Pro	Ala	Asp	Gly	Trp	Gln
		115					120					125			
Asn	Ala	Asp	Phe	Asn	Asp	Ala	Ala	Trp	Lys	Glu	Gly	Glu	Gly	Ala	Phe
	130					135				140					
Gly	Thr	Met	Glu	Asn	Glu	Ser	Thr	Ala	Lys	Thr	Gln	Trp	Gly	Glu	Glu
145					150					155					160
Tyr	Ile	Trp	Ile	Arg	Arg	Lys	Ala	Asp	Ile	Lys	Asp	Asn	Leu	Gln	Gly
				165				170						175	
Lys	Asn	Val	Tyr	Leu	Glu	Tyr	Ser	His	Asp	Asp	Asp	Ala	Ile	Ile	Tyr
			180					185					190		
Val	Asn	Gly	Val	Lys	Val	Val	Asp	Thr	Gly	Asn	Ser	Ala	Lys	Lys	His
		195					200					205			
Met	Leu	Ala	Lys	Leu	Pro	Glu	Glu	Ala	Val	Ala	Ala	Leu	Lys	Gln	Gly
	210					215				220					
Glu	Asn	Leu	Ile	Ala	Ile	Tyr	Cys	Asn	Asn	Arg	Val	Ala	Asn	Gly	Leu
225					230					235					240
Ile	Asp	Cys	Gly	Leu	Leu	Val	Glu	Lys	Asp	Asn	Thr	Gln	Asn	Phe	Thr
			245					250						255	
Gln	Thr	Ala	Val	Gln	Lys	Ser	Val	Asp	Val	Gln	Ala	Met	Gln	Thr	Asn
			260					265					270		
Tyr	Glu	Phe	Thr	Cys	Gly	Pro	Val	Asp	Leu	Lys	Leu	Ala	Phe	Thr	Ser
		275					280					285			
Pro	Leu	Phe	Met	Asp	Asn	Leu	Asp	Leu	Met	Thr	Arg	Pro	Val	Ser	Tyr
	290					295				300					
Leu	Thr	Tyr	Glu	Val	Ala	Ser	Asn	Asp	Gly	Asn	Lys	His	Asn	Val	Glu
305					310					315					320
Leu	Tyr	Phe	Glu	Ala	Gly	Pro	Gln	Trp	Ala	Leu	Asp	Gln	Pro	His	Gln
			325					330					335		
Glu	Ala	Val	Ala	Glu	Ser	Phe	Thr	Glu	Gly	Asn	Leu	Leu	Tyr	Leu	Lys
			340					345					350		
Thr	Gly	Ser	Arg	Asn	Gln	Glu	Ile	Leu	Gly	Lys	Lys	Gly	Asp	Asp	Val
		355				360						365			
Arg	Ile	Asp	Trp	Gly	Tyr	Phe	Tyr	Met	Ala	Ala	Asp	Lys	Glu	Asn	Ser
	370					375					380				
Ser	Cys	Ala	Thr	Gly	Glu	Gly	Lys	Thr	Leu	Arg	Lys	Ser	Phe	Ile	Asp
385					390					395					400
Gly	Lys	Leu	Thr	Ser	Ser	Lys	Thr	Asp	Gly	Ser	Asp	Lys	Leu	Ala	Leu
			405					410					415		
Val	Arg	Ser	Leu	Gly	Glu	Thr	Lys	Lys	Ala	Glu	Gly	His	Leu	Leu	Leu
			420					425					430		
Gly	Tyr	Asp	Asp	Leu	Tyr	Ser	Ile	Gln	Tyr	Phe	Gly	Glu	Asn	Leu	Arg
		435					440					445			
Pro	Tyr	Trp	Asn	Arg	Asn	Gly	Asn	Glu	Thr	Ile	Gln	Ser	Gln	Phe	Ala
	450					455					460				

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Lys Ala Asp Lys Glu Tyr Asp Ala Val Met Asp Lys Cys Ala Ala Phe  
 465 470 475 480  
 Asp Ala Asn Leu Met Lys Glu Ala Thr Glu Val Gly Gly Arg Lys Tyr  
 485 490 495  
 Ala Glu Leu Cys Ala Leu Ala Tyr Arg Gln Ala Ile Ala Ala His Lys  
 500 505 510  
 Leu Val Glu Ala Pro Asn Lys Asp Leu Leu Phe Leu Ser Lys Glu Asn  
 515 520 525  
 Phe Ser Asn Gly Ser Ile Gly Thr Val Asp Ile Thr Tyr Pro Ser Ala  
 530 535 540  
 Pro Leu Phe Leu Val Tyr Asn Pro Glu Leu Ala Lys Gly Leu Met Asn  
 545 550 555 560  
 His Ile Phe Tyr Tyr Ser Glu Ser Gly Lys Trp Asn Lys Pro Phe Ala  
 565 570 575  
 Ala His Asp Val Gly Thr Tyr Pro Leu Ala Asn Gly Gln Thr Tyr Gly  
 580 585 590  
 Gly Asp Met Pro Ile Glu Glu Ser Gly Asn Met Leu Ile Leu Ser Ala  
 595 600 605  
 Ala Ile Ala Ile Val Glu Gly Asn Ala Asp Tyr Ala Gln Lys His Trp  
 610 615 620  
 Asp Val Leu Thr Thr Trp Thr Asp Tyr Leu Ala Gln Tyr Gly Leu Asp  
 625 630 635 640  
 Pro Glu Asn Gln Leu Cys Thr Asp Asp Phe Ala Gly His Phe Ala His  
 645 650 655  
 Asn Ala Asn Leu Ser Ile Lys Ala Ile Leu Gly Val Ala Ser Tyr Gly  
 660 665 670  
 Tyr Leu Ala Asp Lys Leu Gly Lys Lys Glu Val Ala Glu Lys Tyr Thr  
 675 680 685  
 Gln Lys Ala Lys Glu Met Ala Ala Glu Trp Val Lys Met Ala Asp Asp  
 690 695 700  
 Gly Asp His Tyr Arg Leu Thr Phe Asp Lys Pro Gly Thr Trp Ser Gln  
 705 710 715 720  
 Lys Tyr Asn Leu Val Trp Asp Lys Leu Met Asn Leu Gln Ile Phe Pro  
 725 730 735  
 Glu Thr Val Ala Gln Lys Glu Ile Ala Tyr Tyr Leu Gly Lys Gln Asn  
 740 745 750  
 Gln Tyr Gly Leu Pro Leu Asp Asn Arg Glu Thr Tyr Thr Lys Thr Asp  
 755 760 765  
 Trp Ile Met Trp Thr Ala Thr Leu Ala Pro Asp Lys Ala Thr Phe Glu  
 770 775 780  
 Lys Phe Ile Asp Pro Val Tyr Leu Phe Met Asn Glu Thr Thr Asp Arg  
 785 790 795 800  
 Val Pro Met Ser Asp Trp Val Phe Thr Asp Arg Pro Asn Gln Arg Gly  
 805 810 815  
 Phe Gln Ala Arg Ser Val Val Gly Gly Tyr Tyr Ile Lys Met Leu Glu  
 820 825 830  
 Lys Lys Leu Lys Lys  
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&lt;210&gt; 5229

&lt;211&gt; 406

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5229

Phe Val Leu Leu Phe Ile Cys Leu Lys Lys Leu Ser Gly Thr Pro Cys  
 1 5 10 15  
 Arg Ser Val Val Asn Lys Thr Gln Asn Ser Leu Ile Met Arg Lys Leu  
 20 25 30

Ala	Met	Trp	Ala	Leu	Gly	Ala	Leu	Phe	Val	Ala	Gly	Cys	Ala	Glu	Thr
		35					40					45			
Glu	Lys	Ala	Thr	Thr	Asp	Ser	Gly	Leu	Val	Lys	Ser	Asn	Phe	Gln	Thr
	50					55					60				
Glu	Val	Gly	Gly	Lys	Lys	Thr	Asp	Leu	Tyr	Val	Leu	Arg	Asn	Gln	Asn
65					70					75					80
Asn	Met	Glu	Val	Cys	Val	Thr	Asn	Phe	Gly	Gly	Arg	Ile	Val	Ser	Val
				85					90					95	
Met	Val	Pro	Asp	Lys	Glu	Gly	Val	Met	Arg	Asp	Val	Val	Leu	Gly	Phe
			100					105					110		
Asp	Ser	Ile	Gln	Asp	Tyr	Ile	Ser	Lys	Pro	Ser	Asp	Phe	Gly	Ala	Ser
		115					120					125			
Ile	Gly	Arg	Tyr	Ala	Asn	Arg	Ile	Asn	Gln	Gly	Lys	Phe	Thr	Leu	Asp
	130					135					140				
Gly	Val	Glu	Tyr	Gln	Leu	Pro	Arg	Asn	Asn	Tyr	Gly	His	Cys	Leu	His
145					150					155					160
Gly	Gly	Pro	Lys	Gly	Phe	Gln	Tyr	Gln	Val	Tyr	Asp	Ala	Lys	Gln	Val
				165					170					175	
Gly	Pro	Gln	Glu	Leu	Glu	Leu	Thr	Tyr	Leu	Ser	Lys	Asp	Gly	Glu	Glu
			180					185					190		
Gly	Phe	Pro	Gly	Asn	Ile	Thr	Cys	Lys	Val	Ile	Met	Lys	Leu	Thr	Asp
		195				200						205			
Asp	Asn	Ala	Ile	Asp	Ile	Lys	Tyr	Glu	Ala	Glu	Thr	Asp	Lys	Pro	Thr
		210				215					220				
Ile	Val	Asn	Met	Thr	Asn	His	Ser	Tyr	Phe	Asn	Leu	Asp	Gly	Asp	Ala
225					230					235					240
Gly	Ser	Asn	Ala	Asp	His	Leu	Leu	Thr	Ile	Asp	Ala	Asp	Ala	Tyr	Thr
				245					250					255	
Pro	Val	Asp	Ser	Thr	Phe	Met	Thr	Ser	Gly	Glu	Ile	Val	Thr	Val	Glu
			260					265					270		
Gly	Thr	Pro	Met	Asp	Phe	Arg	Thr	Pro	Thr	Pro	Val	Gly	Lys	Arg	Ile
		275					280					285			
Asn	Asp	Phe	Asp	Phe	Val	Gln	Leu	Lys	Asn	Gly	Asn	Gly	Tyr	Asp	His
		290				295				300					
Asn	Trp	Val	Leu	Asn	Ala	Lys	Gly	Asp	Ile	Thr	Arg	Lys	Ala	Ala	Thr
305					310					315					320
Leu	Glu	Ser	Pro	Lys	Thr	Gly	Ile	Val	Leu	Asp	Val	Tyr	Thr	Asp	Glu
				325					330					335	
Pro	Gly	Ile	Gln	Val	Tyr	Ala	Gly	Asn	Phe	Leu	Asp	Gly	Ser	Leu	Thr
			340					345					350		
Gly	Lys	Lys	Gly	Ile	Thr	Tyr	Asn	Gln	Arg	Ala	Ser	Val	Cys	Leu	Glu
		355					360					365			
Thr	Gln	Lys	Tyr	Pro	Asp	Thr	Pro	Asn	Lys	Pro	Glu	Trp	Pro	Ser	Ala
		370				375					380				
Val	Leu	Arg	Pro	Gly	Glu	Thr	Tyr	Asn	Ser	His	Cys	Ile	Phe	Lys	Phe
385					390					395					400
Ser	Val	Asp	Asn	Gly	Lys										
				405											

&lt;210&gt; 5230

&lt;211&gt; 1085

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5230

Arg	Cys	Phe	Tyr	Thr	Leu	Lys	Ile	Tyr	Arg	Thr	Cys	Phe	Leu	Asn	Leu
1				5				10					15		
Cys	Thr	Met	Arg	Lys	Lys	Glu	Gln	Met	Phe	Trp	Leu	Ala	Ser	Arg	Ser
			20					25					30		





Ala Asp Val Trp Asp Ala Asp Ser Glu Leu Ile Pro Gly Lys Tyr Pro  
 980 985 990  
 Leu Ile Arg Met Asn Asn Ala Glu Thr Ser Ala Tyr Glu Lys Ser Thr  
 995 1000 1005  
 Phe Trp Leu His Asn Val Arg Tyr Ile Lys Leu Arg Asn Leu Glu Phe  
 1010 1015 1020  
 Gly Tyr Thr Leu Pro Lys Ala Leu Leu Ala Lys Ser Gly Ile Ser Asn  
 1025 1030 1035 1040  
 Leu Arg Val Tyr Leu Ser Gly Thr Asn Leu Val Thr Leu Thr Asn Val  
 1045 1050 1055  
 Pro Ile Ile Asp Pro Glu Gly Ser Lys Asp Asn Gly Leu Ile Tyr Pro  
 1060 1065 1070  
 Thr Pro Arg Ile Ile Asn Leu Gly Ile Asn Leu Lys Phe  
 1075 1080 1085

<210> 5231  
 <211> 65  
 <212> PRT  
 <213> B.fragilis

<400> 5231  
 Gly Ser Lys His Gln Tyr Ala Thr Ile Leu Leu Met Val Cys Ile Pro  
 1 5 10 15  
 Val Cys Tyr Val Leu Phe Cys Asn Leu Tyr Leu Val Ser Arg Thr Arg  
 20 25 30  
 Ala Ala Val Pro Glu Tyr Val Asp Ser Trp Ala Gln Ala Pro Gly Leu  
 35 40 45  
 Met Gly Pro Gly Ile Gln Asp Glu Val Lys Ile Ala Pro Phe Pro Thr  
 50 55 60  
 Asn  
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<210> 5232  
 <211> 724  
 <212> PRT  
 <213> B.fragilis

<400> 5232  
 Gln His Lys His Met Ser Lys Arg Val Leu Val Leu Ile Gly Leu Phe  
 1 5 10 15  
 Leu Ala Cys Gly Gly Val Tyr Ser Gln Thr Ala Thr Gly Thr Lys Thr  
 20 25 30  
 Asn Phe Gln Thr Ala Glu Ser Trp Lys Pro Glu Thr Asp Val Arg Ala  
 35 40 45  
 Asp Ala Val Met Val Tyr Gly Thr Leu Asp Lys Lys Gly Val Thr Phe  
 50 55 60  
 Glu Gln Arg Val Gln Ser Trp Arg Asp Lys Gly Tyr Arg Ala Glu Phe  
 65 70 75 80  
 Met Thr Gly Val Ala Trp Gly Asp Tyr Gln Asp Tyr Phe Leu Gly Lys  
 85 90 95  
 Trp Asp Gly Val Lys Asp His Leu Lys Glu Gly Gln Arg Asp Arg Glu  
 100 105 110  
 Gly Arg Glu Ile Ala His Gly His Leu Ile Pro Tyr Ile Val Pro Thr  
 115 120 125  
 Glu Ser Phe Ile Arg Tyr Met Gln Glu Lys Gln Ile Lys Arg Val Ile  
 130 135 140  
 Asp Ala Gly Ile Thr Ser Ile Tyr Leu Glu Glu Pro Glu Phe Trp Met  
 145 150 155 160  
 Arg Gly Gly Tyr Ser Glu Ala Phe Lys Ser Glu Trp Gln Lys Tyr Tyr

Gly	Phe	Pro	Trp	Arg	Ala	Gln	His	Glu	Ser	Pro	Glu	Asn	Thr	Tyr	Leu
			180					185					190		
Ser	Asn	Lys	Leu	Lys	Tyr	Tyr	Leu	Tyr	Tyr	Asn	Ala	Leu	Asn	Gln	Ile
		195					200					205			
Phe	Thr	Tyr	Ala	Lys	Thr	Tyr	Gly	Lys	Ser	Lys	Gly	Leu	Asp	Val	Lys
	210					215					220				
Cys	Phe	Val	Pro	Thr	His	Ser	Leu	Val	Asn	Tyr	Thr	Ser	Trp	Gln	Ile
225					230					235					240
Val	Ser	Pro	Glu	Ala	Ser	Leu	Ala	Ser	Leu	Asp	Cys	Val	Asp	Gly	Tyr
				245					250					255	
Ile	Ala	Gln	Val	Trp	Thr	Gly	Thr	Ala	Arg	Glu	Pro	Asn	Tyr	Tyr	Asp
			260					265					270		
Gly	Val	Lys	Lys	Glu	Arg	Val	Phe	Glu	Asn	Ala	Phe	Leu	Glu	Tyr	Gly
		275					280					285			
Cys	Met	Lys	Ser	Met	Thr	Ala	Pro	Leu	Asn	Arg	Lys	Met	Tyr	Phe	Leu
	290					295					300				
Thr	Asp	Pro	Ile	Glu	Asp	Arg	Ala	Lys	Asp	Trp	Leu	Asp	Tyr	Lys	Ile
305					310					315					320
Asn	Tyr	Gln	Ala	Thr	Phe	Ala	Ala	Gln	Leu	Met	Tyr	Pro	Ala	Val	Asp
				325					330					335	
Thr	Tyr	Glu	Val	Met	Pro	Trp	Pro	Asp	Arg	Ile	Tyr	Gln	Gly	Leu	Tyr
			340					345					350		
Gln	Val	Ala	Gly	Thr	Asp	Arg	Lys	Glu	Arg	Ile	Pro	Arg	Asp	Tyr	Ser
		355					360					365			
Thr	Gln	Met	Gln	Ile	Met	Val	Asn	Thr	Leu	Asn	Asp	Ile	Arg	Thr	Ser
	370					375					380				
Glu	Thr	Gln	Val	Ser	Gly	Thr	His	Gly	Ile	Gly	Val	Leu	Met	Ala	Asn
385					390					395					400
Ser	Leu	Met	Phe	Gln	Arg	Phe	Pro	Gly	His	Asp	Gly	Tyr	Asp	Asp	Pro
				405					410					415	
Gln	Phe	Ser	Ser	Phe	Tyr	Gly	Gln	Thr	Leu	Pro	Leu	Leu	Lys	Arg	Gly
			420					425					430		
Ile	Pro	Val	Glu	Leu	Val	His	Met	Glu	Asn	Thr	Pro	Phe	Gly	Asp	Thr
		435					440					445			
Phe	Lys	Gly	Leu	Lys	Val	Leu	Val	Met	Ser	Tyr	Ser	Asn	Met	Lys	Pro
	450					455					460				
Met	Glu	Pro	Arg	Tyr	His	Asp	Phe	Leu	Ala	Asp	Trp	Val	Arg	Lys	Gly
465					470					475					480
Gly	Ala	Leu	Ile	Tyr	Cys	Gly	Glu	Asp	Ile	Asp	Pro	Tyr	Gln	Ser	Val
				485					490					495	
Leu	Glu	Trp	Trp	Asn	Ser	Asn	Gly	Asn	Gln	Tyr	Lys	Ala	Pro	Ser	Glu
			500					505					510		
His	Leu	Phe	Glu	Lys	Leu	Gly	Leu	Asp	Arg	Val	Pro	Ala	Ala	Gly	Thr
		515													

Lys Ala Lys Val Leu Cys Gly Ala Ser Arg Ile Tyr Asp Glu Lys Ala  
 645 650 655  
 Gly Lys Arg Ser Tyr Ser Phe Val Ala Lys Ser Pro Leu His Thr Thr  
 660 665 670  
 Asn Ala Ser Arg Ile Leu Leu Pro Lys Gln Pro Ile Arg Val Cys Val  
 675 680 685  
 Asn Gly Lys Glu Glu Pro Gln Pro Glu Lys Leu Trp Glu Glu Arg Ser  
 690 695 700  
 Arg Thr Leu Leu Leu Lys Phe Glu Asn Asp Pro Ala Gly Val Gln Val  
 705 710 715 720  
 Asp Ile Glu Trp

<210> 5233  
 <211> 85  
 <212> PRT  
 <213> B.fragilis

<400> 5233  
 His Arg Val Lys Ala Cys Ser Leu Asp Val Asn Lys Lys Ser Phe Lys  
 1 5 10 15  
 Cys Lys Arg Leu Val Ile Cys Ala Gln Glu Pro Ala Asn Leu Gln Lys  
 20 25 30  
 Ala Leu Thr Met Leu Ile Glu Lys Arg Tyr Lys Asp Glu Asp Thr Gly  
 35 40 45  
 Ser Asp Gly Val Asn Ser Leu Pro Glu Leu Glu Leu Ser Tyr Ser Ala  
 50 55 60  
 Gly Val Cys Phe Phe Leu Leu Lys Gln Ala Lys Arg Thr Ile Ile Asn  
 65 70 75 80  
 Leu Lys Ile Lys Lys  
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<210> 5234  
 <211> 493  
 <212> PRT  
 <213> B.fragilis

<400> 5234  
 Lys Pro Ile Lys Ile Met Pro Gly Lys Asn Ser Lys Lys Met Ile Gly  
 1 5 10 15  
 Ala Cys Val Val Thr Ala Ala Leu Leu Cys Ala Pro Ser Ala Leu Lys  
 20 25 30  
 Ala Glu Gly Met Leu Ser His Tyr Thr Cys Val Ala Asp Ala Ile Gln  
 35 40 45  
 Lys Asp Asn Arg Pro Glu Pro Ala Lys Arg Leu Phe Arg Ser Gln Ala  
 50 55 60  
 Val Glu Asn Glu Ile Ile Arg Val Gln Lys Leu Leu Arg Asn Ser Lys  
 65 70 75 80  
 Leu Ala Trp Met Phe Thr Asn Cys Phe Pro Asn Thr Leu Asp Thr Thr  
 85 90 95  
 Val His Phe Arg Lys Gly Lys Asp Gly Lys Pro Asp Thr Phe Val Tyr  
 100 105 110  
 Thr Gly Asp Ile His Ala Met Trp Leu Arg Asp Ser Gly Ala Gln Val  
 115 120 125  
 Trp Pro Tyr Val Gln Leu Ala Asn Ser Asp Pro Glu Leu Lys Thr Met  
 130 135 140  
 Leu Ala Gly Val Ile Asn Arg Gln Phe Lys Cys Ile Asn Ile Asp Pro  
 145 150 155 160  
 Tyr Ala Asn Ala Phe Asn Asp Gly Pro Lys Gly Gly Glu Trp Met Ser

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<210> 5235
<211> 1207
<212> PRT
<213> B.fragilis
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<400> 5235																
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1				5					10					15		
Ser	Gly	Gly	Ala	Ser	Tyr	Ala	Gln	Gly	Asn	Lys	Gln	Glu	Lys	Lys	Ala	
			20					25					30			
Lys	Ala	Tyr	Met	Val	Ala	Asp	Ala	His	Leu	Asp	Thr	Gln	Trp	Asn	Trp	
		35					40					45				
Asp	Val	Gln	Thr	Thr	Ile	Lys	Glu	Tyr	Val	Trp	Asn	Thr	Ile	Asn	Gln	
	50					55					60					
Asn	Leu	Phe	Leu	Leu	Lys	Lys	Tyr	Pro	Asn	Tyr	Val	Phe	Asn	Phe	Glu	
65					70					75					80	
Gly	Gly	Val	Lys	Tyr	Ala	Trp	Met	Lys	Glu	Tyr	Tyr	Pro	Ala	Gln	Tyr	





Pro Val Ser Ile Thr Asn Asp Val Lys Ile Thr Leu Val Glu Asp Gly  
 565 570 575  
 Thr Leu Arg Lys Ser Leu Cys Val Glu Lys Arg His Gly Glu Ser Val  
 580 585 590  
 Phe Arg Gln Tyr Ile Arg Leu Tyr Glu Gly Ser Arg Ala Glu Arg Ile  
 595 600 605  
 Asp Phe Tyr Asn Glu Ile Asp Trp Gln Ser Thr Asn Ala Leu Leu Lys  
 610 615 620  
 Ala Glu Phe Pro Leu Asn Ile Glu Asn Glu Lys Ala Thr Tyr Asp Leu  
 625 630 635 640  
 Gly Ile Gly Ser Ile Gln Arg Gly Asn Asn Thr Glu Thr Ala Tyr Glu  
 645 650 655  
 Val Tyr Ala Gln Tyr Trp Ala Asp Leu Thr Asp Arg Asp Gly Ser Tyr  
 660 665 670  
 Gly Val Ser Val Met Asn Asp Ser Lys Tyr Gly Trp Asp Lys Pro Asp  
 675 680 685  
 Asn His Thr Ile Arg Leu Thr Leu Leu His Thr Pro Glu Thr Arg Gly  
 690 695 700  
 Gly Tyr Ala Tyr Gln Asp His Gln Asp Leu Gly His His Thr Phe Thr  
 705 710 715 720  
 Tyr Ser Leu Ile Pro His Gln Gly Ala Leu Asp Lys Pro Ala Thr Val  
 725 730 735  
 Glu Lys Ala Glu Lys Leu Asn Gln Gln Leu Lys Ala Phe Arg Thr Glu  
 740 745 750  
 Lys His Lys Gly Asn Ala Gly Lys Ser Phe Ser Phe Val Ala Ser Asp  
 755 760 765  
 Asn Arg Asn Val Leu Ile Lys Ala Leu Lys Lys Ala Glu Glu Thr Asp  
 770 775 780  
 Glu Tyr Val Val Arg Val Tyr Glu Thr Glu Gly Arg Lys Ala Gln Ser  
 785 790 795 800  
 Ala Thr Leu Thr Phe Ala Gly Glu Ile Ile Ser Ala Ser Glu Ala Asn  
 805 810 815  
 Gly Thr Glu Lys Thr Ile Gly Asn Ala Thr Phe Glu Gly Asn Lys Leu  
 820 825 830  
 Gln Val Asn Ile Thr Pro Tyr Ser Val Arg Thr Tyr Lys Val Arg Leu  
 835 840 845  
 Lys Pro Ser Gly Arg Glu Thr Ser Pro Ile Glu Tyr Ala Ala Leu Pro  
 850 855 860  
 Leu Asp Tyr Asp Arg Lys Cys Ala Ser Tyr Asn Glu Phe Arg Gly Glu  
 865 870 875 880  
 Gly Asp Phe Glu Ser Gly Tyr Ser Phe Ala Ala Glu Leu Leu Pro Asp  
 885 890 895  
 Ser Leu Ile Ala Gly Gln Ile Thr Phe Arg Leu Gly Glu Lys Glu Ile  
 900 905 910  
 Ala Asn Gly Met Thr Cys Glu Gly Asp Thr Leu Gln Leu Pro Ala Gly  
 915 920 925  
 Asn Lys Tyr Asn Arg Leu Tyr Ile Leu Ala Ala Ser Thr Glu Gly Asp  
 930 935 940  
 Asn Gln Ala Asp Phe Arg Ile Gly Lys Gln Thr Ala Ser Phe Val Val  
 945 950 955 960  
 Pro Ser Tyr Thr Gly Phe Ile Gly Gln Trp Gly His Lys Gly His Thr  
 965 970 975  
 Glu Gly Tyr Leu Lys Asp Ala Glu Ile Ala Tyr Val Gly Thr His Arg  
 980 985 990  
 His Ala Ser Asn Gly Asp Gln Pro Tyr Glu Phe Thr Tyr Met Phe Lys  
 995 1000 1005  
 Phe Gly Met Asp Ile Pro Lys Gly Ala Thr Ser Val Ile Leu Pro Arg  
 1010 1015 1020  
 Asn Glu Lys Val Val Leu Phe Ala Ala Thr Leu Val Ala Glu Asn Glu

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<210> 5236
<211> 619
<212> PRT
<213> B.fragilis
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Gln 1	Thr	Met	Lys	Lys 5	Arg	Asn	Phe	Ile	Ala 10	Val	Ala	Ala	Cys	Ala 15	Leu
Ala	Leu	Ser	Ser 20	Cys	Ser	Gly	Phe	Leu 25	Asp	Gln	Lys	Pro	Asp 30	Arg	Ile
Met	Thr	Glu	Asp 35	Gln	Val	Tyr	Gly 40	Asp	Val	Asn	Leu	Thr	Lys 45	Ser	Val
Leu	Ala	Asn	Phe 50	Tyr	Glu	Arg 55	Ile	Ser	Leu	Gly	Gln	His	Val 60	Gly	Asp
Thr 65	Asp	Gly	Phe 70	Ala	Leu	Leu 75	Asp	Glu	Ala	Ile	Thr	Tyr	Asp 80	Thr	Lys
Asp	Asp	Gln	Glu 85	Val	Asp	Arg	Asn	Trp	Trp 90	Arg	Thr	Tyr	Asp 95	Tyr	Thr
Leu	Ile	Arg	Asn 100	Ile	Asn	Gln	Phe 105	Leu	Lys	Gly	Leu	Arg	Glu 110	Ser	Thr
Ala	Leu	Ser	Glu 115	Val	Glu	Lys 120	Ala	Pro	Met	Glu	Gly	Glu	Ala 125	Arg	Phe
Ile	Arg	Ala	Trp 130	Val	Tyr	Phe 135	Cys	Thr	Cys	Arg	Thr	Leu	Gly 140	Gly	Met
Pro 145	Ile	Val	Gly 150	Asp	Glu	Val 155	Tyr	Asp	Tyr	Thr	Ser	Gly	Met 160	Asp	Ile
Thr	Thr	Leu	Gln 165	Val	Pro	Arg	Ala	Thr	Glu	Ser	Ala	Met	Tyr 175	Asp	Tyr
Ile	Ile	Glu	Glu 180	Cys	Lys	Thr	Ile	Ala 185	Glu	Met	Leu	Pro	Thr 190	Glu	Pro
Ser	Lys	Asn	Gly 195	Ala	Arg	Ala	Thr 200	Lys	Trp	Ala	Ala	Lys	Met 205	Leu	Glu
Ala	Arg	Ala	Ala 210	Val	Tyr	Ala 215	Gly	Ser	Ile	Ala	Arg	Tyr	Asn 220	Thr	Val
Ala	Asp	Tyr	Pro	Leu	Leu	Asn	Pro	Glu	Thr	Gly	Val	Val	Gly	Ile	Ser

225					230					235				240
Ser	Glu	Lys	Ala	Thr	Asp	Tyr	Tyr	Lys	Lys	Ala	Leu	Ala	Ala	Glu
					245				250					255
Glu	Val	Ile	Asn	Ser	Gly	Lys	Tyr	Ser	Leu	Met	Arg	Val	Ala	Asp
			260					265						270
Ala	Thr	Pro	Gln	Glu	Lys	Ala	Asp	Asn	Phe	Phe	Lys	Ala	Val	Cys
			275				280					285		
Lys	Asn	Gly	Asn	Thr	Glu	Val	Ile	Trp	Ser	Arg	Asp	Tyr	Ile	Tyr
	290						295				300			
Gly	Gln	Thr	His	Gly	Tyr	Thr	Lys	Ser	Val	Gln	Pro	His	Asp	Gly
305					310					315				320
Glu	Asp	Gly	Gly	Asn	Ser	Arg	Leu	Ser	Ala	Leu	Leu	Asn	Leu	Val
				325					330					335
Ala	Phe	Glu	Pro	Ile	Ala	Thr	Asp	Thr	Pro	Gly	Glu	Gly	Ala	Lys
			340				345						350	
Asp	Val	Gly	Thr	Lys	Asp	Asn	Pro	Lys	Phe	Tyr	Thr	Asn	Pro	Glu
		355					360					365		
Leu	Phe	Val	Gly	Arg	Asp	Pro	Arg	Leu	Ala	Gly	Thr	Ile	Leu	Tyr
	370					375						380		
Gly	Ser	Ser	Phe	Arg	Asp	Arg	Thr	Val	Val	Leu	Gln	Thr	Gly	Gln
385					390					395				400
Ile	Lys	Asn	Ser	Asp	Gly	Gln	Trp	Glu	Gln	Lys	Leu	Gly	Gln	Ser
				405					410					415
Gly	Glu	Lys	Asp	Asp	Gln	Gly	Arg	Tyr	Val	Thr	Ala	Leu	Asn	Gly
			420					425					430	
Met	Val	Arg	Asn	Asp	Gln	Arg	Glu	Cys	Asn	Arg	Thr	Gly	Phe	Tyr
		435					440					445		
Arg	Lys	Tyr	Leu	Asp	Lys	Thr	Thr	Ser	Ala	Gly	Thr	Asp	Arg	Gly
	450					455					460			
Glu	Met	Trp	Asn	Val	Tyr	Phe	Arg	Leu	Ser	Glu	Ala	Tyr	Leu	Ile
465					470					475				480
Ala	Glu	Ala	Ala	Tyr	Glu	Leu	Asn	Gly	Gly	Ser	Asp	Ala	Thr	Ala
				485					490					495
Lys	Tyr	Ile	Asn	Ala	Val	Arg	Ser	Arg	Ala	Gly	Val	Lys	Glu	Leu
			500					505					510	
Ser	Val	Asn	His	Gln	Gln	Ile	Met	His	Glu	Asn	Gln	Val	Glu	Phe
		515					520					525		
Phe	Glu	Gly	His	Arg	Trp	Trp	Asp	Leu	Lys	Arg	Trp	Arg	Gln	Ala
	530					535					540			
Lys	Ile	Trp	Thr	Gly	Ser	Glu	Met	Asp	Ile	Thr	Ala	Thr	Arg	Arg
545					550					555				560
Leu	Trp	Pro	Phe	Leu	Val	Val	Ser	Asp	Asp	Asp	Lys	Asn	Gly	Lys
				565					570					575
Val	Phe	Phe	Glu	Glu	Asn	Met	Asn	Arg	Tyr	Tyr	Arg	Asn	Pro	Leu
			580				585						590	
Cys	Leu	Pro	Lys	His	Tyr	Tyr	Ala	Glu	Leu	Asp	Asn	Gly	Trp	Leu
	595						600					605		
Asn	Asn	Pro	Lys	Leu	Val	Lys	Asn	Pro	Tyr	Gln				
	610					615								

&lt;210&gt; 5237

&lt;211&gt; 427

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5237

Gly	Pro	Ala	Asp	Leu	Leu	Leu	Tyr	Pro	Tyr	Ala	Ser	Phe	Tyr	Ile	Leu
1				5					10					15	
Phe	Leu	Ile	His	Ile	Met	Thr	His	Thr	Gln	Thr	Ile	Thr	Pro	Lys	Lys



```

1           5           10           15
Ser Cys Ser Leu Gly Leu Ile Leu Leu Gly Ala Phe Thr Leu Leu Ser
20           25           30
Val Pro Val Tyr Gly Gln Gln Ile Gln Gln Ser Glu Arg Gln Val Gln
35           40           45
Gln Val Pro Phe Leu Gln Phe Asn Phe Asp Glu Gln Gly Gly Glu Thr
50           55           60
Ala Arg Asn Ser Gly Arg Gly Gly Ser Lys Tyr Asp Ala Arg Ile Thr
65           70           75           80
Gly Gly Thr Val Glu Trp Gly Pro Gly Leu Gln Gln Gly Ser Ala Arg
85           90           95
Leu Ser Asn Lys Gly His Phe Lys Ser Pro Asp Gly Val Leu Ala His
100          105          110
Val Lys Asp Phe Thr Leu Ser Val Trp Val Tyr Leu Asn Glu Gln Ser
115          120          125
Asp Asn Gln Thr Val Cys Leu His His Gly Ser Trp Lys Ile Gly Ile
130          135          140
Val Asn Pro Ala Cys Phe Ser Ala Pro Ile Asp Leu Gly Tyr
145          150          155

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&lt;210&gt; 5239

&lt;211&gt; 336

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5239

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Ile Arg Gly Leu Phe Leu Ile Tyr Ile Phe Ser Met Lys Lys Leu Leu
1           5           10           15
Phe Ser Leu Phe Thr Val Phe Ser Phe Cys Val Pro Ser Ile Ala Gln
20           25           30
Gln Tyr Ser Asn Pro Val Ile Asn Tyr Ser Leu Pro Asp Pro Thr Val
35           40           45
Ile Lys Ala Asp Asp Gly Tyr Tyr Tyr Leu Tyr Ala Thr Glu Asn Ile
50           55           60
Arg Asn Leu Pro Ile His Arg Ser Lys Asp Met Val Asn Trp Ser Phe
65           70           75           80
Val Gly Thr Ala Phe Thr Asn Glu Thr Arg Pro Thr Phe Glu Pro Lys
85           90           95
Gly Asn Leu Trp Ala Pro Asp Ile Asn Lys Ile Gly Asp Arg Tyr Val
100          105          110
Met Tyr Tyr Ser Met Ser Val Trp Gly Gly Glu Trp Thr Cys Gly Ile
115          120          125
Gly Val Ala Thr Ala Asp Lys Pro Glu Gly Ser Phe Thr Asp His Gly
130          135          140
Lys Leu Phe Arg Ser Asn Glu Ile Gly Ile Gln Asn Cys Ile Asp Pro
145          150          155          160
Phe Tyr Ile Glu Asp Gly Gly Lys Lys Tyr Leu Phe Trp Gly Ser Phe
165          170          175
His Gly Ile Tyr Gly Ala Glu Leu Ser Asp Asp Gly Leu Ser Leu Lys
180          185          190
Glu Gly Met Lys Pro Gln Gln Val Ala Gly Thr Ala Tyr Glu Gly Thr
195          200          205
Tyr Ile His Lys Arg Gly Gly Tyr Tyr Tyr Leu Phe Ala Ser Ile Gly
210          215          220
Arg Cys Cys Glu Gly Leu Lys Ser Thr Tyr Thr Val Val Gly Arg
225          230          235          240
Ser Lys Tyr Leu Phe Gly Pro Tyr Val Asp Lys Lys Gly Glu Ser Met
245          250          255
Leu Glu Asn His His Glu Val Leu Ile Asp Lys Asn Glu Ala Phe Val

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<210> 5240
<211> 147
<212> PRT
<213> B.fragilis
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<210> 5241
<211> 161
<212> PRT
<213> B.fragilis
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<400> 5241															
Gly	Lys	Asn	Met	Lys	Asn	Lys	Val	Leu	Ile	Ile	Val	Ala	Ile	Leu	Leu
1				5					10					15	
Leu	Leu	Pro	Asn	Ala	Met	Ala	Trp	Ala	His	Gln	Pro	Ala	Asp	Gly	Asn
			20					25					30		
Leu	Lys	His	Phe	Thr	Lys	Lys	Asp	Ala	Thr	Thr	Ala	Met	Asp	Ala	Phe
		35					40					45			
His	Ser	Thr	Phe	Tyr	Asn	Pro	Asp	Met	Lys	Leu	Tyr	Ala	Ile	Ser	Ser
	50					55					60				
Asp	Met	Lys	Gly	Arg	Ala	Ala	Ile	Trp	Val	Gln	Ala	Ile	Tyr	Trp	Asp
65					70					75					80
Met	Ile	Met	Asn	Ala	Tyr	Lys	Arg	Thr	Lys	Ala	Pro	Lys	Tyr	Arg	Arg
				85					90					95	
Leu	Ile	Glu	Glu	Val	Tyr	Gln	Gly	Gly	Tyr	Glu	Gln	Tyr	Asp	Lys	Tyr
			100					105					110		
Asn	Trp	Asp	Asn	Lys	Ile	Glu	Trp	Phe	Ile	Tyr	Asp	Asp	Met	Met	Trp
		115					120					125			

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Trp Ile Ile Ser Leu Ala Arg Ala Tyr Glu Ile Thr Asn Asp Pro Lys
130          135          140
Tyr Leu Ala His Ala Ser Ser Gly Phe Tyr Pro Cys Leu Glu Arg Val
145          150          155          160
Val

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<210> 5242
<211> 240
<212> PRT
<213> B.fragilis

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<400> 5242
Lys Glu Ile Met Lys Ala Ile Ser Lys Ile Phe Ser Ala Leu Leu Leu
1      5      10      15
Val Met Ile Val Val Thr Ser Cys Thr Lys Asp Asn Tyr Asp Ala Pro
20      25      30
Glu Ser Met Leu Thr Gly Lys Val Val Tyr Glu Gly Glu Ala Leu Gln
35      40      45
Leu Arg Gly Asn Glu Ala Val Arg Leu Phe Leu Tyr Gln Arg Gly Tyr
50      55      60
Glu Lys His Asp Pro Ile Glu Val Phe Val Asn Gln Asp Gly Ala Tyr
65      70      75      80
Ser Ala Cys Leu Phe Asp Gly Glu Tyr Gln Leu Ile Thr Lys Ser Gly
85      90      95
Asn Gly Pro Trp Ser Glu Glu Gly Arg Asp Thr Ile Asn Val Ile Val
100     105     110
Ser Gly Asn Thr Val Gln Asn Val Glu Val Val Pro Tyr Tyr Met Val
115     120     125
Arg Asn Ala Glu Met Lys Leu Asn Gly Asn Val Val Thr Ala Ser Phe
130     135     140
Asn Val Glu Lys Ile Ala Gly Lys Glu Ile Asp Arg Val Phe Phe Met
145     150     155     160
Leu Gly Thr Thr Gln Tyr Ile Asn Asp Gly Glu His Asn Val Asp Arg
165     170     175
Phe Asp Asp Ala Asp Gly Ala Lys Met Ala Glu Ile Asn Val Thr Gly
180     185     190
Ala Arg Tyr Glu Phe Thr Pro Arg Asp Tyr Thr Asp Asn Lys Met Phe
195     200     205
Gln Thr Ala Leu Lys Arg Gly Thr Leu Phe Gly Arg Ile Cys Ile Trp
210     215     220
Pro Lys Gly Ser Asp Gln Gly Ile Tyr Ser Glu Val Ile Arg Leu Lys
225     230     235     240

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<210> 5243
<211> 142
<212> PRT
<213> B.fragilis

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<400> 5243
Leu Leu Ile Leu Tyr Ile Met Asn Lys Arg Phe Ile Ile Val Leu Leu
1      5      10      15
Ala Phe Val Phe Val Ser Met Ala Asn Ala Lys Ala Asp Ile Pro Lys
20      25      30
Val Trp Glu Val Asn Gly Val Tyr Thr Leu Val Glu Val Glu Ser Pro
35      40      45
Ser Gly Tyr Gly Leu Ile Lys Ser Ile Thr Ile Gly Asn Glu Tyr Ala
50      55      60
Tyr Asn Ser Thr Glu Ile Lys Ile Val Val Ile Asp Gly Val Asn Ser

```



65		70		75		80									
Val	Arg	Ile	Asp	Trp	Val	Ala	Glu	Gly	Asn	Arg	Tyr	Pro	Val	Thr	Tyr
			85						90					95	
Ser	Val	Gly	Tyr	Asp	Asn	Thr	Val	Ile	Ile	Pro	Asn	Phe	Leu	Arg	Arg
			100					105					110		
Arg	Phe	Ile	Val	Ser	Val	Glu	Tyr	Thr	Phe	Ala	Gly	Ser	Met	Ala	Gly
		115					120					125			
Ile	Gln	Tyr	Ala	Tyr	Glu	Thr	Arg	Val	Phe	Glu	Ile	Arg	Ser		
	130					135					140				

&lt;210&gt; 5244

&lt;211&gt; 420

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5244

Glu	Ile	Pro	Pro	Phe	Gly	Gly	Ile	Phe	Ser	Ile	Met	Glu	Lys	Phe	Gly
1				5				10						15	
Leu	Met	Leu	Phe	Thr	Arg	Asn	Gly	Leu	Thr	Leu	Gly	Lys	Arg	Cys	Thr
			20				25					30			
Ser	Phe	Phe	Gly	Tyr	Gln	Phe	Arg	Arg	Ile	Val	Arg	Ser	Leu	Met	Ser
		35				40					45				
Val	Tyr	Phe	Cys	Gly	Gly	Ser	Cys	Val	Glu	Asp	Val	Thr	Ser	Gln	Leu
	50				55					60					
Met	Arg	His	Leu	Ser	Tyr	His	Pro	Thr	Phe	Arg	Thr	Cys	Ser	Ser	Asp
65					70				75						80
Thr	Ile	Leu	Arg	Ala	Ile	Lys	Glu	Leu	Thr	Gln	Glu	Asn	Ile	Ser	Tyr
				85				90					95		
Thr	Ser	Asp	Gln	Gly	Lys	Thr	Tyr	Asp	Phe	Asn	Thr	Ala	Asp	Lys	Leu
			100				105					110			
Asn	Thr	Leu	Leu	Ile	Asn	Ala	Leu	Val	Ser	Thr	Gly	Glu	Leu	Lys	Glu
		115				120					125				
Ile	Glu	Glu	Tyr	Asp	Val	Asp	Phe	Asp	His	Gln	Phe	Leu	Glu	Thr	Glu
	130				135				140						
Lys	Tyr	Asp	Ala	Lys	Pro	Thr	Tyr	Lys	Lys	Phe	Leu	Gly	Tyr	Arg	Pro
145				150					155						160
Gly	Val	Tyr	Val	Ile	Gly	Asp	Lys	Ile	Val	Tyr	Ile	Glu	Asn	Ser	Asp
			165					170					175		
Gly	Asn	Thr	Asn	Val	Arg	Phe	His	Gln	Ala	Asp	Thr	His	Lys	Arg	Phe
			180				185					190			
Phe	Ala	Leu	Leu	Glu	Ser	Gln	Asn	Ile	Arg	Val	Asn	Arg	Phe	Arg	Ala
		195				200					205				
Asp	Cys	Gly	Ser	Cys	Ser	Lys	Glu	Ile	Val	Ser	Glu	Ile	Glu	Lys	His
	210					215					220				
Cys	Lys	His	Phe	Tyr	Ile	Arg	Ala	Asn	Arg	Cys	Ser	Ser	Leu	Tyr	Asn
225				230					235						240
Asp	Ile	Phe	Ala	Leu	Arg	Gly	Trp	Lys	Thr	Glu	Glu	Ile	Asn	Gly	Ile
			245				250						255		
Gln	Phe	Glu	Leu	Asn	Ser	Ile	Leu	Val	Glu	Lys	Trp	Glu	Gly	Lys	Cys
		260				265						270			
Tyr	Arg	Leu	Val	Ile	Gln	Arg	Gln	Arg	Arg	Asn	Ser	Gly	Asp	Leu	Asp
	275					280					285				
Leu	Trp	Glu	Gly	Glu	Tyr	Thr	Tyr	Arg	Cys	Ile	Leu	Thr	Asn	Asp	Tyr
	290					295					300				
Lys	Ser	Ser	Thr	Arg	Asp	Ile	Val	Glu	Phe	Tyr	Asn	Leu	Arg	Gly	Gly
305				310					315						320
Lys	Glu	Arg	Ile	Phe	Asp	Asp	Met	Asn	Asn	Gly	Phe	Gly	Trp	Ser	Arg
			325					330					335		
Leu	Pro	Lys	Ser	Phe	Met	Ala	Glu	Asn	Thr	Val	Phe	Leu	Leu	Leu	Thr

Ala	Leu	Ile	His	Asn	Phe	Tyr	Lys	Thr	Ile	Met	Ser	Arg	Leu	Asp	Thr
			355				360					365			
Lys	Ala	Phe	Gly	Leu	Lys	Lys	Thr	Ser	Arg	Ile	Lys	Ala	Phe	Val	Phe
			370				375				380				
Arg	Phe	Ile	Ser	Val	Pro	Ala	Lys	Trp	Ile	Met	Thr	Ala	Arg	Gln	Tyr
385					390					395					400
Val	Leu	Asn	Ile	Tyr	Thr	Glu	Asn	Arg	Ala	Tyr	Ala	Lys	Pro	Phe	Lys
				405					410					415	
Thr	Glu	Phe	Gly												
			420												

&lt;210&gt; 5245

&lt;211&gt; 857

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5245

Arg	Leu	Lys	Glu	Ser	Arg	Phe	Thr	Gly	Gln	Arg	Phe	Arg	Glu	Ala	Gln
1				5					10					15	
Glu	Arg	Asp	Tyr	Arg	His	Tyr	Asp	Arg	Phe	Val	Glu	Lys	Ile	Ile	Pro
			20					25					30		
Asp	Ser	Val	Asn	Phe	Tyr	Arg	Thr	Tyr	Val	Asn	Tyr	His	Ser	Phe	Glu
			35				40					45			
Arg	Tyr	Leu	Glu	Arg	Leu	Lys	Trp	Tyr	Lys	Arg	Gly	Leu	Glu	Lys	Arg
			50			55					60				
Trp	Ala	Ile	Gln	Asp	Ala	Arg	Lys	Arg	Arg	Pro	Asp	Pro	Leu	Leu	Leu
65				70					75						80
Arg	Phe	Asp	Met	Phe	Asn	Arg	Gln	Val	Gly	Arg	Arg	Asp	Ser	Leu	Met
				85					90					95	
Lys	Ser	Arg	Met	Leu	Asp	Asn	Ser	Gln	Arg	Met	Ile	Thr	Arg	Gln	Trp
			100					105					110		
Trp	Arg	Tyr	Gly	Arg	Ala	Trp	Glu	Arg	Met	Asn	Asp	Thr	Leu	Gln	Phe
			115				120					125			
Gln	Ser	Arg	His	Leu	Leu	Glu	Arg	Phe	Arg	Phe	Phe	Asn	Asn	Lys	Trp
			130			135					140				
Ala	Asp	Asn	Ala	Ala	Phe	Gln	Ser	Asp	Gly	Leu	Ile	Ala	Arg	Lys	Asn
145				150						155					160
Tyr	Phe	Arg	Asp	Lys	Ala	Leu	Ser	Thr	Pro	Met	Trp	Gln	Ala	Lys	Arg
				165					170					175	
Ala	Leu	Tyr	Lys	Ala	Asp	Pro	Asp	Ala	Ala	Ile	Arg	Ile	Tyr	Ala	Ser
			180					185					190		
Arg	Phe	Gly	Tyr	Phe	Asn	Asp	Lys	Met	Glu	Arg	Leu	Asp	Ala	Thr	Leu
			195				200					205			
Tyr	Arg	Tyr	Tyr	Arg	Thr	Lys	Gly	Ala	Arg	Ala	Glu	Ser	Arg	Glu	Gly
			210			215					220				
Val	Arg	Phe	Leu	Arg	Ala	Phe	Met	Val	Gly	Arg	Asp	Thr	Thr	Leu	Ser
225				230						235					240
Tyr	Leu	Asn	Arg	Asn	Gln	Leu	Thr	Glu	Lys	Tyr	Ile	Arg	Arg	Tyr	Glu
				245					250					255	
Lys	Val	Lys	Asn	Phe	Phe	Pro	Met	Phe	His	Phe	Arg	Arg	Pro	Asp	Pro
			260					265					270		
Asp	Thr	Leu	Ser	Pro	Leu	Trp	Glu	Thr	Arg	Thr	Arg	Ile	Asp	Thr	Met
			275				280					285			
Gln	Thr	Arg	His	Thr	Leu	Leu	Ser	Lys	Leu	Ser	Lys	Glu	Asp	Ile	Tyr
			290			295					300				
Glu	Tyr	Tyr	Val	Arg	Gln	Gln	Gln	Gly	Val	Ser	Asp	Arg	Gly	Met	Ile
305				310						315					320
Gly	Pro	Phe	Arg	Gly	Leu	Leu	Pro	Leu	Tyr	Thr	Tyr	His	Arg	Asp	Leu



Gln Tyr Met Gln Ala Ile Leu Asn Ala Arg Leu Gly Asn Glu Gln Arg  
                   805                  810                  815  
 Ala Val Ser Leu Leu Ser Ala Ala Glu Val Asp Asp Arg Ile Arg  
                   820                  825                  830  
 Phe Arg Ala Asn Leu Asp Pro Glu Leu Ser Leu Leu Val Lys Lys Tyr  
                   835                  840                  845  
 Gly Leu Phe Lys Glu Asp Asp Leu Trp  
           850                  855

<210> 5246

<211> 295

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (295)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 5246

Ala Ile Glu Arg Val Tyr Phe Gln Pro Arg Gly Glu Asp Leu Leu Lys  
 1                  5                  10                  15  
 Asn Asp Ala Leu Leu Pro Leu Asn Lys Glu Lys Ile Lys Ser Val Ala  
                   20                  25                  30  
 Val Val Gly Pro Phe Ala Asp Tyr Asn Tyr Leu Gly Gly Tyr Ser Gly  
                   35                  40                  45  
 Gln Pro Pro Tyr Ser Val Ser Leu Leu Lys Gly Val Lys Glu Leu Ile  
                   50                  55                  60  
 Gly Lys Lys Gly Lys Val Thr Tyr Leu Asn Gly Met Gly Thr Ser Ala  
 65                  70                  75                  80  
 Asp Ser Ile Ala Gln Val Val Lys Gly Ala Asp Ile Val Leu Val Ala  
                   85                  90                  95  
 Leu Gly Ser Asp Glu Lys Met Ala Arg Glu Asn His Asp Met Pro Ser  
                   100                  105                  110  
 Ile Tyr Leu Pro Glu Gly Gln Glu Lys Leu Leu Lys Glu Ile Tyr Gln  
                   115                  120                  125  
 Val Asn Pro Arg Ile Val Leu Val Phe His Thr Gly Asn Pro Leu Thr  
                   130                  135                  140  
 Ser Glu Trp Ala Asp Thr His Ile Pro Ala Ile Met Gln Ala Trp Tyr  
 145                  150                  155                  160  
 Pro Gly Gln Glu Ala Gly Arg Ala Leu Ala Asn Leu Leu Phe Gly Asn  
                   165                  170                  175  
 Glu Asn Pro Ser Gly Lys Leu Pro Met Thr Ile Tyr Arg Thr Glu Glu  
                   180                  185                  190  
 Gln Leu Pro Asp Ile Leu Asp Phe Asp Met Trp Lys Gly Arg Thr Tyr  
                   195                  200                  205  
 Arg Tyr Met Lys Gly Glu Pro Leu Tyr Gly Phe Gly His Gly Leu Ser  
                   210                  215                  220  
 Tyr Thr Ser Phe Glu Phe Asp Asn Ile Gln Gly Asn Asp Thr Leu Gln  
 225                  230                  235                  240  
 Pro Asp Ala Ile Leu Gln Cys Ser Val Glu Leu Ser Asn Ser Gly Gln  
                   245                  250                  255  
 Leu Ala Gly Glu Glu Val Val Gln Val Tyr Val Ser Arg Glu Asn Thr  
                   260                  265                  270  
 Pro Val Tyr Thr Tyr Pro Leu Lys Lys Leu Val Ala Phe Lys Lys Val  
                   275                  280                  285  
 Lys Leu Ala Phe Ser Glu Xaa  
           290                  295

<210> 5247  
 <211> 170  
 <212> PRT  
 <213> B.fragilis

<400> 5247

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Lys Leu Leu Gln Cys Arg Lys Arg Lys Glu Ala Leu Met Thr Ser Leu
1          5          10          15
Tyr Asp Phe Ser Val Leu Asn Gln Asn Asn Gln Ala Thr Pro Leu Asp
          20          25          30
Ser Tyr Arg Gly Lys Val Leu Leu Ile Val Asn Thr Ala Thr Gly Cys
          35          40          45
Gly Leu Thr Pro Gln Tyr Gln Gly Leu Gln Glu Leu Tyr Glu Arg Tyr
          50          55          60
Gln Asp Gln Gly Phe Glu Ile Leu Asp Phe Pro Cys Asn Gln Phe Met
65          70          75          80
Gly Gln Ala Pro Gly Ser Ala Glu Glu Ile Asn Ala Phe Cys Ser Leu
          85          90          95
His Phe Gln Thr Thr Phe Pro Arg Phe Ala Lys Ile Lys Val Asn Gly
          100          105          110
Lys Glu Ala Asp Pro Leu Tyr Val Trp Leu Lys Asp His Lys Ser Gly
          115          120          125
Pro Leu Gly Lys Arg Ile Glu Trp Asn Phe Ala Lys Phe Leu Ile Ser
          130          135          140
Arg Asp Gly Gln Val Phe Glu Arg Phe Ser Ser Lys Thr Asp Pro Lys
145          150          155          160
Gln Ile Glu Glu Ala Ile Gln Thr Leu Leu
          165          170

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<210> 5248  
 <211> 91  
 <212> PRT  
 <213> B.fragilis

<400> 5248

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Lys Glu Glu Asn Lys Leu Lys Ile Phe Lys Gly Glu Phe Tyr Arg Ile
1          5          10          15
Ser Val Leu Thr Asp Lys Leu Val Arg Leu Glu Tyr Ser Gln Thr Gly
          20          25          30
Ser Phe Glu Asp Arg Thr Thr Gln Leu Ile Tyr Asn Arg Asp Phe Gly
          35          40          45
Gln Val Ser Leu Asp Tyr Ile Glu Thr Ser Asn Val Leu Asp Ile Met
          50          55          60
Thr Asp Tyr Phe His Leu His Phe Asn Lys Gly Glu Phe Asn Ala Glu
65          70          75          80
Asn Leu Phe Ile Glu Leu Lys Gly Asn Phe Ala
          85          90

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<210> 5249  
 <211> 294  
 <212> PRT  
 <213> B.fragilis

<400> 5249

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Arg His Ala Arg Thr Tyr Met Met Arg Asn Asp Trp Gln Asn Met Tyr
1          5          10          15
Thr Ala Ala Thr Asp Val Met Asn Ser Gly Gln Tyr Asn Leu Asn Thr
          20          25          30
Pro Tyr Asp Val Ile Phe Thr Asp Glu Gly Glu Asn Ser Ser Glu Ser

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35 40 45  
 Val Phe Glu Leu Gln Cys Ala Ser Thr Ala Ala Leu Pro Ala Ser Asp  
 50 55 60  
 Lys Ile Gly Ser Gln Phe Cys Glu Val Gln Gly Val Arg Gly Ser Gly  
 65 70 75 80  
 Gln Trp Asp Leu Gly Trp Gly Trp His Met Gly Thr Glu Leu Met Gly  
 85 90 95  
 Glu Ala Phe Glu Pro Gly Asp Pro Arg Lys Asp Ala Thr Leu Leu Tyr  
 100 105 110  
 Phe Arg Arg Ser Asp Thr Asp Pro Ile Thr Pro Glu Asn Thr Asn Lys  
 115 120 125  
 Pro Tyr Gly Glu Ser Pro Val Ser Gln Ala Asp Gly Thr Tyr Phe Asn  
 130 135 140  
 Lys Lys Ala Tyr Thr Asn Pro Ala Leu Arg Glu Glu Phe Thr Arg His  
 145 150 155 160  
 Gly Phe Trp Val Asn Ile Arg Ile Ile Arg Tyr Gly Asp Val Val Leu  
 165 170 175  
 Met Ala Ala Glu Ser Ala Asn Glu Leu Gly Lys Thr Gly Glu Ala Ser  
 180 185 190  
 Asn Tyr Leu Glu Met Val Arg Ala Arg Ala Arg Gly Asn Asn Pro Asp  
 195 200 205  
 Ile Leu Pro Lys Val Thr Ser Leu Asp Gln Thr Val Leu Arg Asp Ala  
 210 215 220  
 Ile Arg His Glu Arg Arg Val Glu Leu Gly Leu Glu Ser Gly Arg Phe  
 225 230 235 240  
 Tyr Asp Leu Val Arg Trp Gly Ile Ala Ser Gln Val Leu His Ala Ala  
 245 250 255  
 Gly Lys Thr Gly Tyr Gln Pro Lys Asn Ala Leu Leu Pro Leu Ser Gln  
 260 265 270  
 Asp Glu Ile Asp Lys Ser Lys Ser Val Leu Val Gln Asn Pro Asp Tyr  
 275 280 285  
 Leu Glu His Thr Thr Glu  
 290

&lt;210&gt; 5250

&lt;211&gt; 493

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5250

Ser Thr Asn Thr Phe Met Asn Gln Lys Leu Leu Phe Ser Ser Ala Leu  
 1 5 10 15  
 Leu Val Gly Ile Ala Gly Thr Gln Gln Ala Leu Ala Gln Lys Lys Lys  
 20 25 30  
 Val Gln Asp Gln Lys Arg Pro Asn Val Val Phe Ile Leu Ala Asp Asp  
 35 40 45  
 Leu Gly Phe Gly Asp Leu Ser Cys Tyr Gly Gln Glu Lys Phe Glu Thr  
 50 55 60  
 Pro Asn Ile Asp Lys Leu Ala Gln Glu Gly Met Arg Phe Thr Gln Cys  
 65 70 75 80  
 Tyr Ser Gly Thr Thr Val Ser Ala Pro Ser Arg Ser Cys Leu Leu Thr  
 85 90 95  
 Gly Thr His Ser Gly His Thr Ala Ile Arg Gly Asn Val Glu Leu Asp  
 100 105 110  
 Pro Glu Gly Gln Phe Pro Leu Pro Ala Asp Ala Gln Thr Ile Phe His  
 115 120 125  
 Asp Phe Gln Asn Ala Gly Tyr Lys Thr Gly Ala Phe Gly Lys Trp Gly  
 130 135 140  
 Leu Gly Phe Ile Gly Ser Thr Gly Asp Pro Lys Lys His Gly Ile Asp

145                      150                      155                      160  
 Glu Phe Tyr Gly Tyr Asn Cys Gln Leu Leu Ala His Ser Tyr Tyr Pro  
                                  165                      170                      175  
 Asp His Leu Trp Asp Asn Asp Lys Arg Val Glu Leu Lys Asp Asn Thr  
                                  180                      185                      190  
 Leu Asp Val Gln Tyr Gly Lys Gly Thr Tyr Ser Gln Asp Leu Ile His  
                                  195                      200                      205  
 Ser Lys Ala Leu Asp Phe Leu Asp Arg Met Gly Lys Ser Gly Glu Ser  
                                  210                      215                      220  
 Phe Cys Met Trp Tyr Pro Thr Ile Ile Pro His Ala Glu Leu Ile Val  
 225                      230                      235                      240  
 Pro Glu Asp Ser Ile Ile Lys Lys Phe Arg Gly Lys Tyr Pro Glu Lys  
                                  245                      250                      255  
 Pro Phe His Gly Thr Glu Pro Gly Asn Pro Ala Phe Arg Lys Gly Gly  
                                  260                      265                      270  
 Tyr Cys Ser Gln Phe Tyr Pro His Ala Thr Phe Ala Ala Met Val Tyr  
                                  275                      280                      285  
 Arg Leu Asp Val Tyr Val Gly Gln Ile Val Gln Lys Leu Lys Glu Met  
 290                      295                      300  
 Gly Val Tyr Asp Asn Thr Ile Ile Ile Phe Ala Ser Asp Asn Gly Pro  
 305                      310                      315                      320  
 His Met Glu Gly Gly Ala Asp Pro Asp Phe Phe Asn Ser Asn Gly Ile  
                                  325                      330                      335  
 Trp Arg Gly Tyr Lys Arg Asp Leu Tyr Glu Gly Gly Ile Arg Val Pro  
                                  340                      345                      350  
 Met Ile Ile Ser Trp Pro Gly Arg Val Gln Pro Ser Thr Gln Thr Asp  
                                  355                      360                      365  
 Phe Met Cys Ser Phe Trp Asp Val Met Pro Thr Phe Arg Glu Ile Leu  
 370                      375                      380  
 Asn Pro Lys Ala Lys Asn Gln Gln Met Asp Gly Val Ser Leu Leu Pro  
 385                      390                      395                      400  
 Leu Leu Glu Asn Arg Lys Gly Gln Lys Glu His Glu Tyr Leu Tyr Phe  
                                  405                      410                      415  
 Glu Phe Gln Glu Met Asn Gly Arg Gln Ala Val Arg Lys Gly Pro Trp  
                                  420                      425                      430  
 Lys Leu Val His Met Asn Val Arg Gly Lys Asn Pro Tyr Tyr Glu Leu  
                                  435                      440                      445  
 Tyr Asn Leu Asn Ser Asp Pro Ser Glu Arg His Asn Val Leu Asn Gln  
                                  450                      455                      460  
 Tyr Pro Glu Lys Val Thr Glu Leu Lys Ala Ile Met Gln Ser Ser His  
 465                      470                      475                      480  
 Ile Pro Asn Pro Asn Phe Pro Leu Leu Pro Gly Glu Lys  
                                  485                      490

&lt;210&gt; 5251

&lt;211&gt; 550

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5251

Thr Met Asn Lys Lys Leu Leu Ser Arg Leu Ala Pro Gly Leu Phe Ala  
 1                      5                      10                      15  
 Val Val Leu Phe Thr Ala Cys Arg Pro Ala Ala Thr Val Lys Gly Asn  
                                  20                      25                      30  
 Leu Asp Val Ile Pro Gln Pro Gln Glu Ile Val Leu Ala Arg Asp Thr  
                                  35                      40                      45  
 Thr Pro Phe Ile Ile Asp Arg Ser Thr Thr Ile Val Tyr Pro Ala Thr  
                                  50                      55                      60  
 Asn Glu Lys Met His Arg Thr Ala Asp Phe Leu Ala Thr Phe Ile Lys

65					70				75				80			
Glu	Met	Thr	Gly	Thr	Glu	Val	Arg	Val	Ser	Asp	Lys	Glu	Lys	Ser	Ser	
				85					90					95		
Asn	Ala	Ile	Ile	Leu	Ala	Val	Asp	Ser	Thr	Met	Gly	His	Pro	Glu	Gly	
			100					105					110			
Tyr	Lys	Leu	Gln	Ile	Thr	Pro	Glu	Lys	Val	Leu	Leu	Thr	Gly	Gly	Ser	
			115					120					125			
Glu	Ala	Gly	Val	Phe	Tyr	Gly	Ile	Gln	Thr	Ile	His	Lys	Ala	Leu	Pro	
			130				135					140				
Ile	Leu	Lys	Asp	Gly	Lys	Val	Ala	Ala	Ala	Leu	Pro	Ala	Gly	Thr	Val	
145					150					155					160	
Thr	Asp	Phe	Pro	Arg	Phe	Arg	Tyr	Arg	Gly	Phe	Met	Ile	Asp	Val	Gly	
				165					170				175			
Arg	His	Phe	Phe	Pro	Val	Ser	Tyr	Leu	Lys	Gln	Met	Ile	Asp	Leu	Met	
			180					185					190			
Ala	Leu	His	Asn	Ile	Asn	Tyr	Phe	His	Trp	His	Leu	Thr	Glu	Asp	Gln	
			195				200						205			
Gly	Trp	Arg	Ile	Glu	Ile	Lys	Lys	Tyr	Pro	Lys	Leu	Thr	Glu	Ile	Gly	
			210				215					220				
Ser	Lys	Arg	Asp	Ser	Thr	Ile	Ile	Asp	Trp	Glu	Thr	Lys	Lys	Phe	Asp	
225					230					235					240	
Gly	Lys	Pro	His	Ser	Gly	Phe	Tyr	Thr	Gln	Asp	Glu	Ala	Arg	Glu	Ile	
				245						250				255		
Val	Arg	Tyr	Ala	Ala	Asp	Arg	Phe	Ile	Thr	Val	Val	Pro	Glu	Ile	Asp	
			260				265						270			
Leu	Pro	Gly	His	Thr	Thr	Ala	Ala	Leu	Ala	Ser	Tyr	Pro	Glu	Leu	Gly	
			275				280					285				
Cys	Thr	Gly	Gly	Pro	Tyr	Lys	Val	Leu	Cys	Ser	Phe	Gly	Val	Phe	Pro	
						295					300					
Asp	Val	Leu	Cys	Ala	Gly	Asn	Asp	Gln	Thr	Leu	Gln	Phe	Thr	Lys	Asp	
305					310					315					320	
Val	Leu	Asp	Glu	Ile	Met	Asp	Ile	Phe	Pro	Ser	Glu	Tyr	Ile	His	Ile	
				325					330					335		
Gly	Gly	Asp	Glu	Cys	Pro	Lys	Ser	Arg	Trp	Glu	Lys	Cys	Pro	Lys	Cys	
			340					345					350			
Gln	Ala	Lys	Ile	Lys	Glu	Leu	Gly	Ile	Lys	Ala	Leu	Pro	Lys	His	Ser	
			355				360						365			
Lys	Glu	Asn	Gln	Leu	Gln	Thr	Tyr	Phe	Met	Ser	Glu	Leu	Glu	Lys	Glu	
						375					380					
Ile	Asn	Ala	His	Gly	Arg	Arg	Met	Leu	Gly	Trp	Asp	Glu	Val	Leu	Glu	
385					390					395					400	
Gly	Gly	Leu	Thr	Pro	Asn	Ser	Thr	Ile	Met	Ser	Trp	Arg	Gly	Ile	Gln	
				405					410					415		
Gly	Gly	Ile	Glu	Ala	Ala	Arg	Gln	His	His	Asp	Val	Ile	Met	Thr	Pro	
			420					425					430			



Thr Leu Lys Thr His Lys  
545 550

<210> 5252

<211> 980

<212> PRT

<213> B.fragilis

<400> 5252

Arg	Asp	Arg	Lys	Thr	Ser	Met	Lys	Asn	Asn	Pro	Tyr	Thr	Gly	Phe	Leu
1				5					10					15	
Thr	Trp	Leu	Thr	Val	Leu	Phe	Thr	Val	Cys	Cys	Leu	Pro	Leu	Lys	Ala
			20					25					30		
Ser	His	Tyr	Tyr	Tyr	Lys	Gln	Ile	Ser	Leu	Lys	Glu	Gly	Leu	Pro	Ser
		35				40						45			
Thr	Val	Arg	Cys	Val	Tyr	Thr	Glu	Pro	Lys	Gly	Phe	Val	Trp	Ile	Gly
	50					55					60				
Thr	Asn	Ala	Gly	Leu	Gly	Arg	Phe	Asp	Gly	Gln	Lys	Leu	Arg	Lys	Tyr
65					70					75					80
Val	His	Arg	Gln	Glu	Asp	Val	His	Ser	Leu	Pro	His	Asn	Tyr	Ile	His
				85					90					95	
Gln	Ile	Thr	Glu	Asp	Ile	Gln	His	Asn	Ile	Trp	Ile	Leu	Thr	Asp	Gly
			100					105					110		
Gly	Ile	Ala	Gln	Tyr	Arg	Arg	Ser	Ser	Asp	Asp	Phe	Ala	Ile	Pro	Leu
		115					120					125			
Asp	Asp	Arg	Gly	His	Pro	Ile	Leu	Ala	Tyr	Ser	Ala	Cys	Leu	Thr	Glu
	130					135					140				
Gln	Gly	Val	Ile	Phe	Gly	Gly	Arg	Asn	Arg	Ile	Tyr	Arg	Tyr	Asp	Tyr
145					150					155					160
Asp	Ser	Arg	Ser	Ile	Lys	Leu	Leu	Leu	Asp	Phe	Ser	Ser	Asp	Pro	Tyr
				165					170					175	
Phe	Ala	Ile	Ser	Ala	Ile	Ser	Arg	Trp	Asp	Glu	Glu	Thr	Leu	Leu	Cys
			180					185					190		
Cys	Ser	Arg	Trp	Gln	Gly	Leu	Arg	Leu	Ile	Asn	Leu	Arg	Ser	Gly	Glu
		195					200					205			
Arg	Arg	Leu	Pro	Pro	Phe	Asp	Cys	Gly	Lys	Glu	Ile	Met	Ala	Leu	Leu
	210					215						220			
Ile	Asp	Ser	His	Asn	Arg	Ile	Trp	Leu	Ala	Pro	Tyr	Asn	Glu	Gly	Leu
225					230					235					240
Arg	Cys	Phe	Asn	Pro	Glu	Gly	Arg	Leu	Leu	Ala	Ser	Tyr	Thr	Thr	Asp
			245						250					255	
Asn	Ser	Gly	Leu	Ser	Asn	Asn	Val	Val	Leu	Ser	Met	Ala	Glu	Arg	Asp
		260						265					270		
Ser	His	Ile	Trp	Val	Gly	Thr	Asp	Gly	Gly	Gly	Ile	Asn	Ile	Ile	His
	275						280					285			
Pro	Asp	Ser	His	Arg	Ile	Thr	Val	Leu	Glu	His	Ile	Pro	Gly	Asp	Asn
	290					295						300			
Tyr	Ser	Leu	Pro	Val	Asn	Ser	Ile	Leu	Ser	Leu	Tyr	Asn	Asp	Asn	Tyr
305					310					315					320
Asn	Asn	Met	Trp	Ala	Gly	Ser	Ile	Arg	Lys	Gly	Leu	Ile	Asn	Ile	Arg
				325					330					335	
Glu	Val	Ser	Met	Lys	Thr	Tyr	Thr	Asp	Val	Phe	Pro	Gly	Ser	Thr	Gln
			340					345					350		
Gly	Leu	Ser	Asp	Pro	Thr	Val	Leu	Ser	Leu	Tyr	Gln	Asp	Glu	Pro	Asn
		355					360					365			
Gly	Arg	Ile	Trp	Ile	Gly	Thr	Asp	Gly	Gly	Gly	Val	Asn	Ser	Leu	Asp
	370					375					380				
Pro	Val	Thr	Glu	Glu	Phe	Arg	His	Asp	Arg	Ser	Thr	Trp	Gly	Asp	Lys
385					390					395					400

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## 2099

865				870					875				880			
Thr	Asp	His	Leu	Asp	Ser	Pro	Glu	Leu	Asp	Val	Thr	Phe	Leu	Cys	Thr	
				885					890					895		
Glu	Met	Gly	Leu	Ser	Arg	Ala	Ser	Leu	Tyr	Asn	Lys	Leu	Lys	Ala	Met	
			900					905					910			
Thr	Asn	Met	Gly	Ala	Asn	Asp	Tyr	Ile	Asn	Lys	Phe	Arg	Met	Glu	Lys	
		915					920					925				
Ala	Ile	Gln	Leu	Ile	Ser	Thr	Thr	Asp	Leu	Thr	Phe	Thr	Glu	Ile	Ala	
	930					935					940					
Glu	Lys	Ile	Gly	Phe	Thr	Thr	Ser	Arg	Tyr	Phe	Ser	Thr	Ser	Phe	Lys	
945					950					955				960		
Gln	Tyr	Thr	Gly	Glu	Thr	Pro	Thr	Gln	Tyr	Lys	Glu	Lys	Ile	Arg	Lys	
			965					970					975			
Ser	Ser	Lys	Val													
			980													

&lt;210&gt; 5253

&lt;211&gt; 786

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5253

Phe	Leu	Asn	Glu	Gln	His	Met	Arg	Lys	Leu	Phe	Phe	Pro	Leu	Leu	Leu
1				5					10				15		
Phe	Val	Ser	Gly	Leu	Leu	Ser	Ala	Gln	Thr	Glu	Ile	Thr	Leu	Tyr	Val
			20					25					30		
Ser	Pro	Ser	Gly	Ser	Asp	His	His	Pro	Gly	Thr	Ala	Glu	Lys	Pro	Met
		35				40						45			
Ala	Thr	Leu	Glu	Tyr	Ala	Trp	Lys	Lys	Ala	Ser	Arg	Gln	Ala	Gly	Arg
	50					55					60				
Arg	Ser	Ile	Thr	Ile	Tyr	Cys	Glu	Gly	Thr	Asn	Tyr	Leu	Ser	Ala	Pro
65				70					75					80	
Ile	Leu	Ile	Thr	Asn	Glu	Thr	Ser	Gly	Thr	Pro	Glu	His	Pro	Ile	Arg
			85					90					95		
Phe	Ser	Ser	Tyr	Pro	Gly	Gln	Lys	Ala	Val	Ile	Ser	Gly	Ser	Arg	Ile
			100				105						110		
Leu	Arg	Asn	Leu	Arg	Trp	Lys	Glu	Tyr	Lys	Asn	Gly	Ile	Met	Gln	Ala
	115					120						125			
Lys	Val	Glu	Glu	Glu	Leu	Ile	Pro	Asp	Gln	Leu	Phe	Val	Asn	Gly	Lys
	130					135				140					
Lys	Gln	Ile	Ser	Ala	Arg	Tyr	Pro	Asn	Phe	Asp	Pro	Asp	Ile	Arg	Ile
145					150					155				160	
Phe	Asn	Gly	Tyr	Ala	Ala	Asp	Ala	Cys	Ser	Pro	Glu	Arg	Val	Lys	Asn
			165					170					175		
Trp	Ser	Asn	Pro	Ala	Gly	Gly	Tyr	Leu	His	Ala	Met	His	Ser	Arg	Glu
		180						185					190		
Trp	Gly	Gly	Tyr	Gln	Tyr	Ser	Ile	Glu	Gly	Lys	Asp	Ala	Lys	Gly	Glu
	195					200						205			
Leu	Ile	Leu	Lys	Gly	Gly	Phe	Gln	Asn	Asn	Arg	Gln	Met	Gly	Met	His
	210					215					220				
His	Thr	Tyr	His	Met	Val	Glu	Asn	Ile	Phe	Glu	Glu	Leu	Asp	Ala	Glu
225					230					235				240	
Gly	Glu	Trp	Tyr	Phe	Asp	Lys	Glu	Thr	His	Thr	Leu	Tyr	Phe	Tyr	Pro
			245					250					255		
Pro	Arg	Glu	Leu	Asp	Leu	Gln	Thr	Ala	Leu	Phe	Glu	Val	Pro	Gln	Ala
		260						265				270			
Glu	Asn	Leu	Phe	Ile	Leu	Lys	Gly	Lys	Thr	Gly	Ser	Pro	Val	Arg	His
	275						280					285			
Val	Ser	Val	Asp	His	Leu	Glu	Leu	Thr	Gln	Thr	Leu	Arg	Thr	Phe	Met

290		295		300
Lys Thr Asn Glu Pro	Leu Leu Arg Ser Asp Trp	Lys Ile Tyr Arg Gly		
305	310	315		320
Gly Ala Leu Ile Ile	Glu Asn Ala Glu Lys Cys Ser Val	Asn Gly Cys		
	325	330		335
Tyr Leu His Asp Ile	Gly Gly Asn Ala Ile Phe Phe Ser	Asn Tyr Asn		
	340	345		350
Arg Asn His Arg Val	Ser Gln Asn His Ile Thr Arg Ile	Gly Ala Ser		
	355	360		365
Ala Val Cys Phe Val	Gly Ser Pro Asp Ala Val Arg Ser	Pro Leu Phe		
	370	375		380
Glu Tyr Gly Lys Ser	Gln Thr Trp Glu Gln Met Asp Lys	Gly Thr Gly		
385	390	395		400
Pro Leu Thr Pro Asp	Tyr Pro Ser Asp Cys Leu Val Asp	Asp Asn Leu		
	405	410		415
Ile His Ser Ile Gly	Glu Thr Glu Lys Gln Gly Ala Gly	Ile Gln Leu		
	420	425		430
Ser Met Ser Ala Arg	Ile Thr Ile Arg Asn Asn Ser Ile	Tyr Asp Leu		
	435	440		445
Pro Arg Ala Gly Ile	Asn Val Ser Glu Gly Thr Trp Gly	Gly His Leu		
	450	455		460
Ile Glu Gly Asn Asp	Val Phe Asp Thr Val Leu Glu Thr	Gly Asp His		
465	470	475		480
Gly Ser Phe Asn Ser	Trp Gly Arg Asp Arg Tyr Trp His	Pro Asp Arg		
	485	490		495
Asn Val Met Asp Glu	Phe Ala Lys Glu His Pro Gln Met	Val Phe Arg		
	500	505		510
Asp Ala Thr Glu Thr	Thr Val Ile Arg Asn Asn Arg Trp	Arg Cys Asp		
	515	520		525
His Gly Trp Asp Ile	Asp Leu Asp Asp Gly Ser Ser Asn	Tyr His Ile		
	530	535		540
Tyr Asn Asn Leu Cys	Leu His Gly Gly Leu Lys Leu Arg	Glu Gly Phe		
545	550	555		560
Ala Arg Thr Val Glu	Asn Asn Ile Met Val Asn Asn Thr	Phe His Pro		
	565	570		575
His Val Trp Phe Ala	Asn Ser Gln Asp Ile Phe Arg His	Asn Ile Val		
	580	585		590
Thr Thr Pro Tyr Arg	Pro Ile Gln Val Lys Glu Trp Gly	Lys Glu Thr		
	595	600		605
Asp Thr Asn Phe Phe	Val Thr Lys Gln Gly Leu Glu Gln	Ala Gln Lys		
	610	615		620
Arg Gly Thr Asp Leu	His Ser Leu Tyr Gly Asp Pro Leu	Phe Ile Ala		
625	630	635		640
Pro Glu Lys Gly Asp	Tyr Arg Val Lys Glu Asn Ser Pro	Ala Leu Lys		
	645	650		655
Thr Gly Phe Arg Asn	Phe Asp Met Glu His Phe Gly Val	Gln Cys Pro		
	660	665		670
His Leu Lys Ala Leu	Ala Ala Thr Pro Lys Leu Pro Val	Phe Lys Ile		
	675	680		685
Pro Glu Glu Lys Pro	Glu Thr Val Gln Thr Tyr Ser Trp	Lys Gly Leu		
	690	695		700
Thr Leu Lys Glu Val	Ser Thr Glu Gly Glu Arg Ser Ala	Thr Gly Leu		
705	710	715		720
Asp Lys Ile Arg Gly	Ile Leu Val Val Gln Val Glu Lys	Gly Ile Thr		
	725	730		735
Ala Leu Gln Ala Asn	Asp Val Ile Leu Arg Ile Asn Gly	Lys Pro Val		
	740	745		750
Asp Asn Arg Thr Asp	Met Glu Thr Glu Ile Arg Lys Ser	Pro Glu Gly		
	755	760		765

## 2101

Asn Lys Phe Arg Ile Ile Phe Phe Arg Asn Gln Lys Glu Asn Ala Val  
 770 775 780  
 Thr Met  
 785

<210> 5254

<211> 535

<212> PRT

<213> B.fragilis

<400> 5254

Ser Leu Ile Glu Lys Leu Leu Met Met Asn Asn Leu Pro Ser Gly Ile  
 1 5 10 15  
 Leu Tyr Ser Leu Thr Gly Ala Ala Ala Val Ala Ser Leu Thr Ser Cys  
 20 25 30  
 Ala Thr Gly Lys Gln Lys Glu Glu Gln Lys Pro Leu Asn Ile Val Tyr  
 35 40 45  
 Ile Met Thr Asp Asp His Thr Ala Gln Met Met Ser Cys Tyr Asp Thr  
 50 55 60  
 Arg Tyr Ile Glu Thr Pro Asn Leu Asp Arg Ile Ala Arg Asp Gly Val  
 65 70 75 80  
 Arg Phe Thr Asn Ser Phe Val Ala Asn Ser Leu Ser Gly Pro Ser Arg  
 85 90 95  
 Ala Cys Met Ile Thr Gly Lys His Ser Cys Ala Asn Lys Phe Tyr Asp  
 100 105 110  
 Asn Thr Thr Cys Val Phe Asp Ser Ala Gln Gln Thr Phe Pro Lys Leu  
 115 120 125  
 Leu Gln Lys Ala Gly Tyr Gln Thr Ala Leu Val Gly Lys Trp His Leu  
 130 135 140  
 Glu Ser Leu Pro Ser Gly Phe Asn Tyr Trp Glu Ile Val Pro Gly Gln  
 145 150 155 160  
 Gly Asp Tyr Tyr Asn Pro Asp Phe Ile Thr Gln Asp Asn Asp Thr Val  
 165 170 175  
 Gln Lys His Gly Tyr Ile Thr Asn Leu Ile Thr Asp Asp Ala Ile Asp  
 180 185 190  
 Trp Met Glu Asn Lys Arg Asp Glu Ser Lys Pro Phe Cys Leu Leu Ile  
 195 200 205  
 His His Lys Ala Ile His Arg Asn Trp Met Ala Asp Thr Cys Asn Leu  
 210 215 220  
 Ala Leu Tyr Glu Asp Lys Thr Phe Pro Leu Pro Asp Asn Phe Phe Asp  
 225 230 235 240  
 Asp Tyr Glu Gly Arg Pro Ala Ala Ala Ala Gln Glu Met Ser Ile Val  
 245 250 255  
 Lys Asp Met Asp Met Ile Tyr Asp Leu Lys Met Leu Arg Pro Asp Lys  
 260 265 270  
 Asp Ser Arg Leu Lys Ser Leu Tyr Gln Lys Phe Leu Gly Arg Met Asp  
 275 280 285  
 Glu Gly Gln Arg Ala Ala Trp Asp Lys Phe Tyr Gly Pro Val Ile Asp  
 290 295 300  
 Asp Phe Tyr Lys Gln Asn Leu Ser Gly Lys Glu Leu Ala Asp Trp Lys  
 305 310 315 320  
 Phe Gln Arg Tyr Met Arg Asp Tyr Met Lys Thr Val Lys Ser Leu Asp  
 325 330 335  
 Asp Asn Val Gly Arg Val Leu Asp Tyr Leu Glu Lys Lys Gly Leu Leu  
 340 345 350  
 Asp Asn Thr Leu Val Val Tyr Thr Ser Asp Gln Gly Phe Tyr Met Gly  
 355 360 365  
 Glu His Gly Trp Phe Asp Lys Arg Phe Met Tyr Glu Glu Ser Met Arg  
 370 375 380

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Thr Pro Leu Ile Met Arg Met Pro Lys Gly Phe Asp Arg Arg Gly Asp
385          390          395          400
Ile Thr Glu Met Val Gln Asn Ile Asp Tyr Ala Pro Thr Phe Leu Glu
          405          410          415
Leu Ala Gly Ala Pro Val Pro Ala Asp Ile Gln Gly Met Ser Leu Leu
          420          425          430
Pro Leu Leu Lys Gly Glu Gln Pro Lys Asp Trp Arg Asn Ala Leu Tyr
          435          440          445
Tyr His Phe Tyr Glu Tyr Pro Ala Glu His Met Val Lys Arg His Tyr
          450          455          460
Gly Ile Arg Thr Glu Arg Tyr Lys Leu Ile His Phe Tyr Asn Asp Ile
465          470          475          480
Asn Trp Trp Glu Leu Tyr Asp Met Gln Ala Asp Pro Thr Glu Met His
          485          490          495
Asn Leu Tyr Gly Gln Lys Glu Tyr Glu Pro Val Val Lys Glu Leu Lys
          500          505          510
Glu Gln Met Leu Lys Leu Gln Glu Gln Tyr Asn Asp Pro Val Arg Phe
          515          520          525
Ser Pro Glu Arg Asp Lys Glu
          530          535

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<210> 5255

<211> 60

<212> PRT

<213> B.fragilis

<400> 5255

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Ser Cys Ser Leu Ser Thr Lys Asn Val Val Leu Leu Cys Val Thr Leu
1          5          10          15
Tyr Tyr Ser Val Leu Leu Cys Gly Glu Lys Ala Phe Gly Glu Leu Leu
          20          25          30
Phe Met Ser Leu Gln Gly Ile Arg Arg Glu Tyr Ile Phe Pro Ile Thr
          35          40          45
Ile Ile Gln Arg Arg Ile Asn Leu Gln His Leu Gly
          50          55          60

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<210> 5256

<211> 509

<212> PRT

<213> B.fragilis

<400> 5256

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Lys Lys Lys Leu Ile Met Lys Arg Ile Glu Ile Tyr Ile Gly Leu Ser
1          5          10          15
Val Phe Ala Leu Ser Ala Lys Ser Gln Val Lys Glu Ser Arg Pro Asn
          20          25          30
Val Ile Tyr Ile Ile Met Asp Asp Leu Gly Tyr Gly Asp Ile Gly Cys
          35          40          45
Tyr Gly Ser Glu Lys Ile Glu Thr Pro Asn Ile Asp Arg Leu Tyr Lys
          50          55          60
Asp Gly Ile Ser Phe Thr Gln His Tyr Thr Gly Ser Pro Val Ser Ala
65          70          75          80
Pro Ala Arg Cys Val Leu Met Thr Gly Met His Ser Gly His Ala Gln
          85          90          95
Ile Arg Ala Asn Asp Glu Met Ala Tyr Arg Gly Ala Ile Met Asn Tyr
          100          105          110
Asp Ser Met Tyr Val His Pro Gly Leu Glu Gly Gln Tyr Pro Leu Lys
          115          120          125
Ala His Thr Met Thr Leu Gly Arg Met Met Gln Gln Ala Gly Tyr Val

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130		135		140
Thr Gly Cys Phe Gly Lys Trp Gly Leu Gly Ala Pro Gly Thr Glu Gly				
145		150		155
Thr Pro Asn Lys Gln Gly Phe Asp Ser Phe Tyr Gly Tyr Asn Cys Gln				
	165		170	175
Arg Gln Ala His Ser Tyr Tyr Pro Ala Phe Leu Tyr Lys Asn Glu Asp				
	180		185	190
Arg Val Tyr Leu Ala Asn Lys Val Leu Asp Pro His Thr Thr Lys Leu				
	195		200	205
Asp Ala Gly Ala Asp Pro Arg Asp Glu Ala Ala Tyr Ala Lys Phe Ser				
	210		215	220
Gln Lys Glu Tyr Ala Asn Asp Leu Ile Phe Asp Glu Leu Ile Ser Phe				
225		230		235
Val Gly Gln Asn Arg Lys Lys Pro Phe Phe Leu Met Trp Thr Thr Pro				
	245		250	255
Leu Pro His Val Ser Leu Gln Ala Pro Glu Lys Trp Val Lys Tyr Tyr				
	260		265	270
Val Gly Lys Phe Gly Asp Glu Ala Pro Tyr Ile Gly Lys Ala Gly Tyr				
	275		280	285
Met Pro Cys Arg Tyr Pro His Ala Thr Tyr Ala Ala Met Ile Ser Tyr				
	290		295	300
Phe Asp Glu Gln Ile Gly Lys Leu Ile Glu Lys Leu Lys Lys Glu Arg				
305		310		315
Leu Tyr Asp Asn Thr Val Ile Met Phe Thr Ser Asp Asn Gly Pro Thr				
	325		330	335
Phe Asn Gly Gly Ser Asp Ser Pro Trp Phe Asp Ser Gly Gly Pro Phe				
	340		345	350
Arg Ser Glu Tyr Gly Trp Gly Lys Cys Phe Val His Glu Gly Gly Ile				
	355		360	365
Arg Ile Pro Ala Ile Val Thr Trp Pro Gly Lys Ile Lys Pro Ser Thr				
	370		375	380
Gln Ser Asp His Ile Cys Gly Phe Gln Asp Val Met Pro Thr Leu Ala				
385		390		395
Asp Ile Val Asn Ile Ala Cys Pro Glu Thr Asp Gly Ile Ser Phe Leu				
	405		410	415
Pro Ala Leu Leu Gly Glu Thr Glu Arg Gln Lys Glu His Glu Tyr Leu				
	420		425	430
Tyr Trp Glu Tyr Pro Asp Pro Thr Ile Gly Leu Lys Ala Ile Arg Met				
	435		440	445
Gly Lys Trp Lys Gly Ile Val Asn Asn Ile Arg Lys Gly Asn Ser Thr				
	450		455	460
Met Glu Leu Tyr Asp Leu Glu Ser Asp Leu Arg Glu Glu His Asp Val				
465		470		475
Ala Ala Glu His Pro Asp Ile Val Arg Lys Leu Thr Arg Leu Met Glu				
	485		490	495
Lys Ser His Thr Glu Pro Glu Asn Pro Lys Phe Arg Phe				
	500		505	

&lt;210&gt; 5257

&lt;211&gt; 423

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5257

Val His Gly Leu Phe Gln Pro Arg Gly Glu Asp Asp Ala Gly Phe			
1	5	10	15
Ile Tyr Ala Ile Gln Ser Leu Arg Gln Trp Asn Thr Gly Glu Glu Arg			
	20	25	30
Gly Leu Ile Phe Pro Cys Val Glu Ile Thr Asp Phe Pro Arg Val Lys			

35	40	45
Trp Arg Ser Phe Met Leu Asp Ser Gly Arg Gln Tyr Gln Lys Val Ser		
50	55	60
Thr Ile Lys Lys Tyr Ile Asp Met Ala Ser Met Leu Lys Met Asn Tyr		
65	70	75
Phe His Trp His Leu Thr Glu Gly Leu Gly Trp Arg Ile Glu Ile Lys		
85	90	95
Arg Tyr Pro Phe Leu Thr Arg Ile Gly Ala Phe Val Gly Gln Gly Pro		
100	105	110
Glu Gln Gln Gly Phe Tyr Ser Gln Glu Glu Val Lys Glu Ile Ile Gly		
115	120	125
Tyr Ala Ala Asp Arg Gly Ile Thr Val Val Pro Glu Ile Asp Met Pro		
130	135	140
Gly His Ala Glu Ala Ala Leu Asn Ala Tyr Pro Arg Leu Gly Cys Phe		
145	150	155
Asn Val Ala Val Lys Val Pro Gln Ser Gly Phe Thr Gln Asn Ile Phe		
165	170	175
Cys Ala Gly Lys Asp Ser Thr Leu Ile Phe Leu Lys Asn Val Leu Asp		
180	185	190
Glu Val Cys Arg Met Phe Pro Ser Ala Tyr Ile His Leu Gly Gly Asp		
195	200	205
Glu Ala Pro Lys Gly Asn Trp Asp Lys Cys Pro Asp Cys Arg Ser Arg		
210	215	220
Ile Glu Lys Glu Lys Leu Lys Asp Ser His Asp Leu Gln Leu Trp Phe		
225	230	235
Ser Ala Arg Met Ala Asp Tyr Leu Lys Gln Lys Gly Arg Lys Ala Ile		
245	250	255
Phe Trp Gly Asp Val Ile Tyr Lys Asp Gly Tyr Ser Leu Pro Asp Asn		
260	265	270
Val Val Ile Gln Trp Trp Asn Trp Arg Gly His Arg Asp Leu Ala Leu		
275	280	285
Lys Asn Ala Val Arg His Asn Tyr Pro Val Ile Cys Gly Thr Asn Tyr		
290	295	300
Tyr Thr Tyr Leu Asn Phe Pro Leu Thr Pro Trp Lys Gly Tyr Thr Gln		
305	310	315
Ala Arg Thr Phe Asp Leu Glu Asp Val Tyr Leu Arg Asn Pro Ser Tyr		
325	330	335
Arg Pro Arg Glu Asn Pro Leu Ile Leu Gly Met Ser Ser Ala Leu		
340	345	350
Trp Thr Asp Asp Gly Val Thr Glu Ser Met Ile Asp Arg Arg Val Phe		
355	360	365
Pro Arg Ile Leu Ala Leu Ala Glu Gln Met Trp His Ser Gly Asn Pro		
370	375	380
Glu Asn Phe Asp Glu Phe Tyr Gly Lys Val Leu Ser Lys Gln Leu Trp		
385	390	395
Phe Glu Gln Gln Gly Tyr Ser Phe Gly Pro Ala Leu Lys Glu Asp Ala		
405	410	415
Gly Thr Asn Tyr Lys Trp Asp		
420		

&lt;210&gt; 5258

&lt;211&gt; 487

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5258

Asn Arg Ile Met Glu Gln Tyr Thr Phe Asn Ile Ala Gly Gly Val Ala
1 5 10 15
Arg Asn Pro Leu Val Arg Leu Ala Gln Pro Val Thr Ala Gln Ile Ala





<210> 5259  
 <211> 370  
 <212> PRT  
 <213> B.fragilis

<400> 5259

Glu	Lys	Ile	Ile	Ser	Val	Glu	Leu	Cys	Val	Ile	Cys	Gly	Glu	Leu	Lys
1				5					10					15	
Thr	Ile	Thr	Ile	Met	Asn	Lys	Ile	Ile	Glu	Leu	Leu	Gly	Asn	Gln	Ala
			20					25					30		
Glu	Tyr	Tyr	Leu	Asn	His	Thr	Cys	Lys	Thr	Ile	Asp	Lys	Ser	Leu	Ile
		35					40					45			
His	Val	Pro	Ser	Pro	Asp	Thr	Ile	Asp	Lys	Ile	Trp	Ile	Asp	Ser	Asp
	50					55					60				
Arg	Asn	Ile	Gln	Thr	Leu	Arg	Ser	Leu	Gln	Thr	Leu	Leu	Gly	His	Gly
65					70					75				80	
Arg	Leu	Ala	Asn	Thr	Gly	Tyr	Val	Ser	Ile	Leu	Pro	Val	Asp	Gln	Asp
			85					90						95	
Ile	Glu	His	Thr	Ala	Gly	Ala	Ser	Phe	Ala	Pro	Asn	Pro	Ile	Tyr	Phe
			100					105					110		
Asp	Pro	Glu	Asn	Ile	Val	Lys	Leu	Ala	Ile	Glu	Gly	Gly	Cys	Asn	Ala
		115					120					125			
Val	Ala	Ser	Thr	Phe	Gly	Asn	Leu	Gly	Ala	Val	Ala	Arg	Lys	Tyr	Ala
	130					135					140				
His	Lys	Ile	Pro	Phe	Val	Val	Lys	Leu	Asn	His	Asn	Glu	Leu	Leu	Ser
145					150					155					160
Tyr	Pro	Asn	Thr	Tyr	Asp	Gln	Val	Leu	Phe	Gly	Thr	Val	Lys	Glu	Ala
			165						170					175	
Trp	Glu	Met	Gly	Ala	Val	Ala	Val	Gly	Ala	Thr	Ile	Tyr	Phe	Gly	Ser
			180					185					190		
Glu	Gln	Ser	Arg	Arg	Gln	Leu	Val	Glu	Ile	Ala	Glu	Ala	Phe	Asp	Tyr
		195					200					205			
Ala	His	Glu	Leu	Gly	Met	Ala	Thr	Ile	Leu	Trp	Cys	Tyr	Leu	Arg	Asn
	210					215					220				
Asn	Glu	Phe	Lys	Lys	Asp	Gly	Ile	Asp	Tyr	His	Ala	Ala	Ala	Asp	Leu
225					230					235					240
Thr	Gly	Gln	Ala	Asn	Arg	Leu	Gly	Val	Thr	Ile	Lys	Ala	Asp	Ile	Val
			245						250					255	
Lys	Gln	Lys	Leu	Pro	Thr	Asn	Asn	Gly	Gly	Phe	Lys	Ala	Ile	His	Phe
			260					265					270		
Gly	Lys	Thr	Asp	Glu	Arg	Met	Tyr	Thr	Glu	Leu	Thr	Thr	Asp	His	Pro
		275					280					285			
Ile	Asp	Leu	Cys	Arg	Tyr	Gln	Val	Ala	Asn	Gly	Tyr	Met	Gly	Arg	Val
	290					295					300				
Gly	Leu	Ile	Asn	Ser	Gly	Gly	Glu	Ser	His	Gly	Ala	Ser	Asp	Leu	Lys
305					310					315					320
Asp	Ala	Val	Val	Thr	Ala	Val	Val	Asn	Lys	Arg	Ala	Gly	Gly	Met	Gly
			325						330					335	
Leu	Ile	Ser	Gly	Arg	Lys	Ala	Phe	Gln	Lys	Pro	Met	Asn	Glu	Gly	Val
			340				345						350		
Glu	Leu	Leu	His	Ala	Ile	Gln	Asp	Val	Tyr	Leu	Asp	Ala	Ser	Val	Thr
		355					360					365			
Ile	Ala														
	370														

<210> 5260  
 <211> 248  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5260

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Met Lys Lys Ile Val Leu Leu Arg His Gly Glu Ser Ala Trp Asn Lys
1      5      10      15
Glu Asn Arg Phe Thr Gly Trp Thr Asp Val Asp Leu Thr Glu Lys Gly
      20      25      30
Ile Ala Glu Ala Cys Lys Ala Gly Glu Leu Leu Lys Glu Asn Gly Phe
      35      40      45
Asn Phe Asp Lys Ala Tyr Thr Ser Tyr Leu Lys Arg Ala Val Lys Thr
      50      55      60
Leu Asn Cys Val Leu Asp Arg Met Asp Gln Asp Trp Ile Pro Val Glu
      65      70      75      80
Lys Ser Trp Arg Leu Asn Glu Lys His Tyr Gly Asp Leu Gln Gly Leu
      85      90      95
Asn Lys Ser Glu Thr Ala Ala Lys Tyr Gly Asp Glu Gln Val Leu Ile
      100     105     110
Trp Arg Arg Ser Tyr Asp Ile Ala Pro Asn Ala Leu Ser Glu Asp Asp
      115     120     125
Pro Arg Asn Pro Arg Phe Glu Asn Arg Tyr Gln Glu Val Pro Asp Ala
      130     135     140
Glu Leu Pro Arg Thr Glu Ser Leu Lys Asp Thr Ile Glu Arg Ile Met
      145     150     155     160
Pro Tyr Trp Lys Cys Ile Ile Phe Pro Asn Leu Lys Thr Ala Asp Glu
      165     170     175
Ile Leu Val Val Ala His Gly Asn Ser Leu Arg Gly Ile Ile Lys His
      180     185     190
Leu Lys His Ile Ser Asp Glu Glu Ile Val Lys Leu Asn Leu Pro Thr
      195     200     205
Ala Val Pro Tyr Val Phe Glu Phe Ser Asp Glu Leu Asn Leu Glu Lys
      210     215     220
Asp Tyr Phe Leu Gly Asp Pro Glu Glu Ile Arg Lys Leu Met Glu Ala
      225     230     235     240
Val Ala Asn Gln Gly Lys Lys Lys
      245

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&lt;210&gt; 5261

&lt;211&gt; 768

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5261

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Lys Pro Leu Ser Ala Gly Glu Arg Leu Ser Asn Arg Ala Leu Asn His
1      5      10      15
Lys His Pro Phe Gly Ser Ser Arg Phe Ile Cys Glu Tyr Asn Glu Val
      20      25      30
Tyr Leu Thr Leu His Thr Gln Cys Ile Phe His Asn Ile Asn Asn Asn
      35      40      45
Thr Met Lys Lys Leu Leu Ala Thr Leu Leu Ile Leu Val Ala Cys Ile
      50      55      60
His Val Asn Ala Gln Glu Ser Ile Gln Ile Arg Ile Ser Thr Asp Arg
      65      70      75      80
Thr Asp Leu Ile Leu Glu Val Ala Pro Asp Gly Arg Leu Tyr Gln Ser
      85      90      95
Tyr Leu Gly Asp Arg Leu Leu Asn Glu Gln Asp Leu Lys Asn Leu Ser
      100     105     110
Gly Ser Ser Arg Gly Trp Glu Val Tyr Pro Gly Ser Gly Gly Glu Asp
      115     120     125
Tyr Phe Glu Pro Ala Val Ala Ile Thr Asn Asn Asp Gly Asn Leu Ser

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130		135		140											
Thr	Ile	Leu	Arg	Tyr	Val	Ser	Ser	Glu	Gln	Lys	Ala	Val	Glu	Gly	Gly
145					150					155					160
Thr	Glu	Thr	Ile	Ile	Arg	Met	Lys	Asp	Asp	Gln	Tyr	Pro	Val	Asp	Val
				165					170						175
Thr	Leu	His	Tyr	Val	Ala	Tyr	Pro	Lys	Gln	Asn	Val	Ile	Lys	Thr	Trp
			180					185				190			
Ser	Glu	Ile	Lys	His	Gln	Gln	Lys	Lys	Pro	Val	Val	Leu	Trp	Arg	Tyr
		195					200				205				
Ala	Ser	Thr	Met	Leu	Tyr	Phe	Ser	Asn	Gln	Lys	Tyr	Tyr	Leu	Thr	Glu
	210					215					220				
Phe	Ser	Ser	Asp	Trp	Ala	Lys	Glu	Val	Gln	Met	Ser	Thr	Gln	Gln	Leu
225				230					235						240
Gln	Pro	Gly	Lys	Lys	Ile	Leu	Asp	Thr	Lys	Leu	Gly	Ser	Arg	Ala	Ala
			245					250						255	
Met	His	Met	Gln	Pro	Phe	Phe	Glu	Leu	Gly	Leu	Glu	Gln	Pro	Ala	Gln
		260					265					270			
Glu	His	Gln	Gly	Gln	Val	Val	Leu	Gly	Thr	Ile	Gly	Trp	Thr	Gly	Asn
	275						280					285			
Tyr	Gln	Phe	Thr	Phe	Glu	Val	Asp	Asn	Glu	Gly	Asp	Leu	Arg	Ile	Ile
290				295					300						
Pro	Ala	Ile	Asn	Pro	Tyr	Ala	Ser	Asp	Tyr	Gln	Leu	Lys	Ala	Asn	Glu
305				310					315						320
Thr	Phe	Thr	Thr	Pro	Glu	Phe	Ile	Phe	Thr	Leu	Ser	Asn	Asn	Gly	Thr
			325					330						335	
Gly	Glu	Ala	Ser	Arg	Asn	Leu	His	Asn	Trp	Ala	Arg	Asn	Tyr	Gln	Leu
		340					345					350			
Lys	Asp	Gly	Lys	Gly	Asp	Arg	Met	Thr	Leu	Leu	Asn	Asn	Trp	Glu	Asn
	355			360								365			
Thr	Tyr	Phe	Thr	Phe	Asp	Glu	Glu	Leu	Leu	Gly	Lys	Leu	Met	Lys	Glu
370				375					380						
Ala	Lys	His	Leu	Gly	Val	Asp	Met	Phe	Leu	Leu	Asp	Asp	Gly	Trp	Phe
385				390					395						400
Gly	Asn	Lys	His	Pro	Arg	Asn	Asp	Asp	His	Ala	Gly	Leu	Gly	Asp	Trp
			405					410						415	
Glu	Ala	Met	Lys	Ser	Lys	Leu	Pro	Gly	Gly	Ile	Pro	Ala	Leu	Val	Glu
		420						425					430		
Lys	Ala	Lys	Glu	Ala	Gly	Val	Lys	Phe	Gly	Ile	Trp	Ile	Glu	Pro	Glu
	435						440					445			
Met	Val	Asn	Pro	Lys	Ser	Asp	Leu	Phe	Glu	Thr	His	Pro	Glu	Trp	Ala
	450					455						460			
Ile	His	Tyr	Pro	Asn	Arg	Glu	Thr	Tyr	Tyr	Phe	Arg	Asn	Gln	Leu	Val
465				470					475						480
Leu	Asp	Leu	Ser	Asn	Pro	Lys	Val	Gln	Asp	Phe	Val	Phe	Gly	Val	Val
			485					490					495		
Asp	Lys	Ile	Met	Thr	Glu	Asn	Pro	Asp	Val	Ala	Phe	Phe	Lys	Trp	Asp
		500						505					510		
Cys	Asn	Ser	Pro	Ile	Thr	Asn	Ile	Tyr	Ser	Pro	Tyr	Leu	Lys	Asp	Lys
	515						520						525		
Gln	Gly	Gln	Leu	Tyr	Ile	Asp	His	Val	Arg	Gly	Ile	Tyr	Asn	Val	Leu
	530					535							540		
Lys	Arg	Val	Lys	Glu	Lys	Tyr	Pro	Asn	Val	Pro	Met	Met	Leu	Cys	Ser
545				550					555						560
Gly	Gly	Gly	Ala	Arg	Cys	Asp	Tyr	Glu	Ala	Leu	Lys	Tyr	Phe	Thr	Glu
			565					570					575		
Phe	Trp	Cys	Ser	Asp	Asn	Thr	Asp	Pro	Val	Glu	Arg	Leu	Phe	Ile	Gln
		580					585					590			
Trp	Gly	Phe	Ser	Gln	Phe	Phe	Pro	Ala	Lys	Ala	Met	Cys	Ala	His	Val
	595					600						605			

Thr	Ser	Trp	Asn	Ser	Lys	Thr	Ser	Val	Lys	Phe	Arg	Thr	Asp	Val	Ala
610						615					620				
Ser	Met	Cys	Lys	Leu	Gly	Phe	Asp	Ile	Gly	Leu	Lys	Asp	Met	Lys	Ala
625					630					635					640
Asp	Glu	Leu	Thr	Tyr	Cys	Gln	Glu	Ala	Val	Ala	Asn	Tyr	Lys	Arg	Leu
				645					650					655	
Lys	Pro	Val	Ile	Leu	Asp	Gly	Asp	Gln	Tyr	Arg	Leu	Val	Ser	Pro	Tyr
			660					665					670		
Asp	Gly	Asn	His	Met	Ala	Val	Met	Tyr	Thr	Ala	Pro	Asp	Ala	Ser	Lys
		675						680					685		
Ala	Val	Leu	Phe	Thr	Tyr	Asp	Ile	His	Pro	Arg	Phe	Gly	Glu	Lys	Leu
		690					695				700				
Leu	Pro	Val	Lys	Leu	Arg	Gly	Leu	Asp	Ala	Gln	Lys	Met	Tyr	Arg	Val
705					710					715					720
Lys	Glu	Ile	Asn	Leu	Met	Pro	Gly	Arg	Lys	Ser	Asn	Leu	Ser	Gly	Asn
				725					730					735	
Glu	Lys	Ile	Phe	Ser	Gly	Asp	Tyr	Leu	Met	Lys	Ile	Gly	Leu	Asn	Ala
			740					745					750		
Phe	Thr	Thr	Ser	Gln	Thr	Asn	Ser	Arg	Val	Ile	Glu	Leu	Val	Ala	Glu
		755					760						765		

&lt;210&gt; 5262

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5262

Met	Met	Lys	Leu	Phe	Arg	Glu	Ile	Leu	Ile	Ile	Cys	Leu	Leu	Gly	Lys
1				5					10					15	
Leu	Ile	Ala	Cys	Ser	Pro	Leu	Ala	Ser	Gly	Glu	Ile	Asn	Asp	Val	Trp
			20					25					30		
Gly	His	Lys	Gln	Val	Ala	Thr	Ile	Glu	Met	Ala	Gly	Ser	Asp	Ser	Val
			35				40					45			
Trp	Val	Cys	His	Leu	Ser	Met	Leu	Lys	Asp	Thr	Val	Thr	Val	Pro	Leu
	50					55					60				
Ser	Tyr	Phe	Val	Glu	Glu	Leu	Glu	Met	Val	Lys	Leu	Asp	Asn	Arg	Asp
65				70						75					80
Ala	Ala	Leu	Val	Ser	Ser	Ser	Lys	Thr	Ile	Ile	Gly	Lys	Gln	Tyr	Ile
				85					90					95	
Leu	Val	His	Lys	Met	Gly	His	Val	Pro	Phe	Lys	Leu	Phe	Thr	Lys	Ser
			100					105					110		
Gly	Thr	Tyr	Leu	Arg	Asp	Ile	Gly	Ser	Phe	Gly	Gln	Gly	Ala	Gly	Glu
		115					120					125			
Tyr	Gly	Leu	Ala	Tyr	Asp	Ala	Gln	Met	Asp	Glu	Glu	Asn	Asn	Arg	Leu
	130					135					140				
Tyr	Val	Leu	Cys	Trp	Gln	Ala	Asp	His	Ile	Leu	Val	Phe	Asp	Leu	Gln
145					150					155					160
Gly	Asn	Ile	Leu	Gln	Pro	Ile	Arg	Leu	Ala	His	Trp	Ser	Pro	Lys	Gly
				165					170					175	
Val	Phe	His	Val	Glu	Thr	Glu	Arg	Gly	Arg	Val	His	Val	Cys	Ala	Leu
			180					185					190		
Ser	Phe	Asn	Arg	Asp	Phe	Val	Gly	Asp	Arg	His	Ser	Pro	Met	Ile	Trp
		195					200						205		
Thr	Gln	Ser	Leu	Asp	Gly	Lys	Ile	Ile	Lys	Glu	Leu	Pro	Ala	Gly	Tyr
	210					215					220				
Leu	Ala	Val	Asn	Asp	Tyr	Gly	Asn	Glu	Ile	Lys	Ser	Leu	Asn	Asn	Gly
225					230					235					240
Thr	Val	Met	Asp	Ile	Gly	Phe	Trp	Phe	Gly	Gly	Gln	Tyr	Arg	Asn	Asp
				245					250					255	

Ser Leu Tyr His Tyr Asn Asn Gln Glu Phe Arg Leu Leu Pro Arg Phe  
 260 265 270  
 Thr Leu Asp Tyr Gly Gly His Glu Leu Thr Pro His Ser Phe Gly Glu  
 275 280 285  
 Leu Pro Asn His Phe Trp Gly Glu Ile Ser Tyr Pro Val Arg Leu Ser  
 290 295 300  
 Pro His Ser Ser Thr Thr Thr Pro Pro Glu Tyr Tyr Met Val Asp Lys  
 305 310 315 320  
 His Thr Leu Arg Gly Ala Phe Val Glu Ile Tyr Asn Asp Phe Leu Gly  
 325 330 335  
 Gly Ile Pro Ala Asp Trp Phe Phe Ser Ser His Asp Gly Tyr Tyr Val  
 340 345 350  
 Trp Asn Val Glu Pro Val Arg Leu Lys Gln Met Val Glu Asp Arg Leu  
 355 360 365  
 Ser Ser Gly Glu Ile Val Ser Asp Ser Asp Arg Arg Lys Leu Thr Glu  
 370 375 380  
 Leu Leu Arg Ser Thr Lys Glu Asn Asp Asn Asn Tyr Ile Phe Tyr Gly  
 385 390 395 400  
 Arg Leu Lys Cys Arg  
 405

<210> 5263

<211> 400

<212> PRT

<213> B.fragilis

<400> 5263

Leu Ile Phe Ala Thr Pro Leu Phe Tyr Glu Ile Ile His Leu Ser Gln  
 1 5 10 15  
 Cys Leu Phe Asn Phe Leu Gly Ile Ser Met Arg Leu Ile Tyr Phe Ile  
 20 25 30  
 Asn Ser Lys Tyr Asp Arg Asn Thr Cys Cys Cys Cys Met Ile Asn Gly  
 35 40 45  
 Phe Phe Gly Leu Gly His Tyr Ile Ile Ile Gly Ser Tyr Asn Asn Asn  
 50 55 60  
 Cys Asp Ile Gly His Leu Cys Thr Thr Gly Thr His Cys Ser Lys Cys  
 65 70 75 80  
 Leu Met Ser Arg Ser Ile Glu Glu Arg Asn Leu Thr Ser Ile Phe Gln  
 85 90 95  
 Cys Asn Met Ile Cys Thr Asn Met Leu Cys Asp Thr Ser Gly Phe Thr  
 100 105 110  
 Cys Asn Tyr Ile Cys Phe Thr Asn Val Val Lys Gln Arg Ser Phe Thr  
 115 120 125  
 Met Val Tyr Val Ser His Asp Cys Asn Asn Arg Ser Thr Met Phe Gln  
 130 135 140  
 Ile Phe Arg Arg Ile Phe Leu Phe Asn Asn Gly Leu Gly Tyr Phe Cys  
 145 150 155 160  
 Thr Asp Ile Phe Ser Leu Lys Ser Lys Phe Phe Ser His Lys Ile Asn  
 165 170 175  
 Arg Phe Cys Ile Gln Thr Leu Ile Asp Arg Asn His His Thr Asn Ala  
 180 185 190  
 His Thr Ser Ser Asp Asn Leu Ile Tyr Arg Tyr Val His His Ala Cys  
 195 200 205  
 Gln Phe Ile Ser Ser His Lys Phe Cys Gln Phe Gln Tyr Leu Ala Phe  
 210 215 220  
 Cys His Phe Leu Ile Phe Gln Phe Leu His Thr Val Gly Arg His Val  
 225 230 235 240  
 Thr Phe Phe Phe Thr Ile Phe Gly Thr Phe Val Leu Thr Phe Ala Cys  
 245 250 255

Gln Thr Ser Gln Arg Phe Phe Asn Leu Leu Cys Tyr Ile Phe Phe Ala  
 260 265 270  
 Tyr Phe Leu Tyr Tyr Arg Leu Phe Glu Ala Val Phe Ile Ile Val  
 275 280 285  
 Ile Thr Val Ser Ile Leu Ser Ala Ala Thr Leu Leu Ile Ser Ser Thr  
 290 295 300  
 Val Ile Ile Arg Thr Leu Thr Val Trp Ser Arg Val Cys Lys Ile Arg  
 305 310 315 320  
 Ser Asn Ile Val His Ile Tyr Phe Phe Leu Ile Ile Val Asp Ala Ile  
 325 330 335  
 Thr Phe Leu Leu Thr Val Arg Ile Lys Val Phe Leu Thr Asn Asp Leu  
 340 345 350  
 Ser Leu Phe Thr Ile Phe Phe Thr Asp Phe Leu Asp Asp Gly Phe Leu  
 355 360 365  
 His Leu Phe Leu Leu Ile Leu Thr Lys Leu Phe Leu Leu Phe Thr Leu  
 370 375 380  
 Phe Pro Leu Phe Leu Phe Arg Phe Leu Leu Arg Thr Cys Arg Leu Ile  
 385 390 395 400

&lt;210&gt; 5264

&lt;211&gt; 174

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5264

Phe Asn Ala Ala Lys Ser Ile Cys Pro Ile Thr Leu Ile Leu Asp Thr  
 1 5 10 15  
 Asn Ser Val Gly Arg Ile Leu Asn Thr Pro Ser Ser Ser Phe Ser Thr  
 20 25 30  
 Gly Val Thr Gly Ala Ser Ala Thr Gly Phe Ser Ser Phe Phe Ser Val  
 35 40 45  
 Phe Ser Gly Asp Thr Thr Thr Phe Gly Ser Ser Phe Leu Thr Ser Ser  
 50 55 60  
 Thr Thr Phe Phe Ser Val Ser Thr Gly Phe Ser Thr Thr Thr Gly Phe  
 65 70 75 80  
 Gly Ser Ser Phe Thr Gly Phe Gly Ser Glu Val Ala Gly Val Thr Val  
 85 90 95  
 Thr Ser Ser Phe Thr Ser Ile Thr Thr Gly Leu Thr Ser Ser Ala  
 100 105 110  
 Thr Phe Phe Ser Ser Ala Ala Thr Gly Cys Gly Phe Gly Ser Ser Phe  
 115 120 125  
 Ile Gly Ser Phe Ser Thr Phe Arg Phe Ser Leu Ser Lys Ser Ile Phe  
 130 135 140  
 Pro Thr Gly Leu Asn Phe Gly Arg Thr Ser Ser Gly Met Thr Val Leu  
 145 150 155 160  
 Ile Thr Ser Ser Ala Thr Val Phe Ser Gly Ser Phe Leu Ser  
 165 170

&lt;210&gt; 5265

&lt;211&gt; 422

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5265

Ile Ile Met Ala Lys Lys Glu Glu Thr Ile Ser Leu Ile Asp Thr Phe  
 1 5 10 15  
 Ser Glu Phe Lys Glu Leu Lys Asn Ile Asp Arg Thr Thr Met Val Ser  
 20 25 30  
 Val Leu Glu Glu Ser Phe Arg Ser Val Ile Ala Lys Met Phe Gly Thr

35	40	45
Asp Glu Asn Tyr Asp Val Ile Val Asn Pro Asp Lys Gly Asp Phe Glu		
50	55	60
Ile Trp Arg Asn Arg Glu Val Val Ala Asp Glu Asp Leu Thr Asn Pro		
65	70	75
Asn Met Gln Ile Ser Leu Thr Glu Ala Gln Lys Ile Asp Ala Ser Tyr		
85	90	95
Glu Val Gly Glu Glu Val Thr Asp Glu Val Ile Phe Ala Lys Phe Gly		
100	105	110
Arg Arg Ala Ile Leu Asn Leu Arg Gln Thr Leu Ala Ser Lys Ile Leu		
115	120	125
Glu Leu Glu Lys Asp Ser Ile Tyr Asn Lys Tyr Ile Asp Lys Val Gly		
130	135	140
Thr Ile Ile Asn Ala Glu Val Tyr Gln Ile Trp Lys Lys Glu Met Leu		
145	150	155
Leu Leu Asp Asp Glu Gly Asn Glu Leu Leu Leu Pro Lys Thr Glu Gln		
165	170	175
Ile Pro Ser Asp Phe Tyr Arg Lys Gly Glu Thr Ala Arg Ala Val Val		
180	185	190
Ala Arg Val Asp Asn Lys Asn Asn Asn Pro Lys Ile Ile Leu Ser Arg		
195	200	205
Thr Ser Pro Val Phe Leu Gln Arg Leu Phe Glu Met Glu Val Pro Glu		
210	215	220
Ile Asn Asp Gly Leu Ile Thr Ile Lys Lys Ile Ala Arg Ile Pro Gly		
225	230	235
Glu Arg Ala Lys Ile Ala Val Glu Ser Tyr Asp Asp Arg Ile Asp Pro		
245	250	255
Val Gly Ala Cys Val Gly Val Lys Gly Ser Arg Ile His Gly Ile Val		
260	265	270
Arg Glu Leu Arg Asn Glu Asn Ile Asp Val Ile Asn Tyr Thr Ser Asn		
275	280	285
Ile Ser Leu Phe Ile Gln Arg Ala Leu Ser Pro Ala Lys Ile Ser Ser		
290	295	300
Ile Arg Leu Asn Glu Glu Arg Lys Ala Glu Val Phe Leu Lys Pro		
305	310	315
Glu Glu Val Ser Leu Ala Ile Gly Lys Gly Gly Leu Asn Ile Lys Leu		
325	330	335
Ala Ser Met Leu Thr Glu Tyr Thr Ile Asp Val Phe Arg Glu Leu Asp		
340	345	350
Glu Asn Ala Gln Asp Glu Asp Ile Tyr Leu Asp Glu Phe Arg Asp Glu		
355	360	365
Ile Asp Gly Trp Val Ile Asp Ala Ile Lys Ala Ile Gly Ile Asp Thr		
370	375	380
Ala Lys Ser Val Leu Asn Ala Pro Arg Glu Met Leu Ile Glu Lys Thr		
385	390	395
Asp Leu Glu Glu Glu Thr Val Asp Glu Val Leu Arg Ile Leu Lys Ser		
405	410	415
Glu Phe Glu Asp Asn Glu		
420		

&lt;210&gt; 5266

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5266

Leu Pro Phe Tyr Tyr Tyr Ala Asp Gly Arg Lys Phe His Ile Thr Met
1 5 10 15
Val Gly Arg Gly Tyr Phe Trp Lys Arg Ile Asp Asn Glu Ile Ile Asp



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<210> 5267
<211> 64
<212> PRT
<213> B.fragilis
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Leu	Trp	Gly	Tyr	Trp	Gln	Gln	Lys	Pro	Leu	Tyr	Thr	Ser	Leu	Ala	Val
1				5					10					15	
Lys	Leu	Cys	Pro	Thr	Val	Thr	Asp	Ser	Met	Thr	Val	Ala	Gln	Ile	Leu
			20					25					30		
Ala	Phe	Ile	Ile	Ile	Trp	Ile	Ala	Val	Ala	Ala	Asn	Leu	Tyr	Ile	Gly
		35					40					45			
Gly	Phe	Ser	Ile	Asn	Gln	Gly	Ile	Gly	Gly	Gly	Phe	Thr	Trp	Leu	Ala
	50					55					60				

<400> 5268

Tyr Lys Pro Leu Asn Glu Thr Arg Ile Met Leu Leu Ala Thr Thr Pro  
1 5 10 15  
Ile Ile Glu Gly Lys Arg Ile Thr Thr Tyr Tyr Gly Ile Val Ser Gly  
20 25 30

Glu Thr Ile Ile Gly Ala Asn Val Phe Arg Asp Phe Phe Ala Ser Ile  
 35 40 45  
 Arg Asp Ile Val Gly Gly Arg Ser Gly Ser Tyr Glu Glu Val Leu Arg  
 50 55 60  
 Glu Ala Lys Asp Thr Ala Leu Lys Glu Met Ser Glu Gln Ala Arg Gln  
 65 70 75 80  
 Met Gly Ala Asn Ala Val Ile Gly Val Asp Leu Asp Tyr Glu Thr Val  
 85 90 95  
 Gly Gly Ser Gly Ser Met Leu Met Val Thr Ala Ser Gly Thr Ala Val  
 100 105 110  
 Phe Leu Glu  
 115

<210> 5269

<211> 553

<212> PRT

<213> B.fragilis

<400> 5269

Ile Ser Leu Tyr Ile Pro Thr Thr Gly Gln Gly Tyr Thr Gly Tyr Phe  
 1 5 10 15  
 Thr Leu Gln Lys Gln His Leu Met Lys Lys Lys Val Thr Thr Tyr  
 20 25 30  
 Cys Cys Leu Leu Leu Leu Ala Ser Phe Phe Thr Thr Val Thr Ala Gln  
 35 40 45  
 Asn Thr Asn Thr Pro Met Met Gly Trp Ser Ser Trp Asn Thr Phe Arg  
 50 55 60  
 Val His Ile Asn Glu Glu Leu Ile Lys Glu Thr Ala Asp Ala Met Val  
 65 70 75 80  
 Asn Arg Gly Leu Lys Asp Val Gly Tyr Gly Tyr Val Asn Ile Asp Asp  
 85 90 95  
 Gly Tyr Phe Gly Gly Arg Asn Ser Glu Gly Arg Leu Phe Ala Asn Lys  
 100 105 110  
 Lys Lys Phe Pro Asn Gly Met Arg Val Leu Ser Asp Tyr Ile His Ser  
 115 120 125  
 Lys Gly Leu Lys Ala Gly Ile Tyr Ser Asp Ala Gly Ser Asn Thr Cys  
 130 135 140  
 Gly Ser Ile Tyr Asp Ala Asp Thr Leu Gly Ile Gly Val Gly Leu Trp  
 145 150 155 160  
 Lys His Asp Asp Ile Asp Cys Gln Thr Phe Leu Lys Asp Trp Gly Tyr  
 165 170 175  
 Asp Phe Ile Lys Ile Asp Trp Cys Gly Gly Glu Ala Thr Gly Gln Ser  
 180 185 190  
 Glu Gln Gln Arg Tyr Thr Asp Ile Tyr Lys Ala Ile Arg Arg Thr Gly  
 195 200 205  
 Arg Thr Asp Val Arg Tyr Asn Ile Cys Arg Trp Gln Phe Pro Gly Thr  
 210 215 220  
 Trp Ala Thr Gln Leu Ala Gly Ser Trp Arg Ile His Thr Asp Ile Asn  
 225 230 235 240  
 Pro Arg Phe Thr Thr Ile Asp Arg Ile Ile Glu Arg Asn Leu Tyr Leu  
 245 250 255  
 Ala Pro Tyr Ala Ser Pro Gly His Tyr Asn Asp Met Asp Met Leu Glu  
 260 265 270  
 Val Gly Arg Gly Leu Thr Glu Asp Glu Glu Lys Thr His Phe Gly Ile  
 275 280 285  
 Trp Ser Ile Leu Ser Ser Pro Leu Met Ile Gly Cys Asp Leu Arg Thr  
 290 295 300  
 Ile Pro Glu Lys Thr Leu Ser Ile Ile Thr Asn Lys Glu Val Ile Ala  
 305 310 315 320

Leu Asn Gln Asp Ser Leu Gly Leu Gln Ala Glu Ala Ile Glu Arg Gly  
 325 330 335  
 Lys Asp Tyr Leu Ile Leu Ser Lys Ala Ile Gln Lys Arg Glu Gly Lys  
 340 345 350  
 Leu Arg Ala Val Ala Leu Tyr Asn Arg Ser Asn Thr Asp Gln Gln Ile  
 355 360 365  
 Arg Val Asp Phe Asp Lys Leu Tyr Leu Ser Gly Asp Val Arg Val Arg  
 370 375 380  
 Asp Leu Trp Asn His Gln Glu Met Gly Thr Phe Thr Asp Tyr Tyr Glu  
 385 390 395 400  
 Thr Leu Val Pro Ala His Gly Thr Ala Leu Ile Arg Leu Glu Gly Ser  
 405 410 415  
 Lys Arg His Asp Arg Thr Cys Tyr Glu Ala Glu Tyr Ala Phe Met Gln  
 420 425 430  
 Glu Phe Leu Pro Asp Asn Lys Gln Ala Ala His Phe Thr Pro Lys Ser  
 435 440 445  
 Gly Ala Ser Gly Glu Tyr Ile Met Lys Asn Leu Gly Asn Ser Pro Ser  
 450 455 460  
 Asn Trp Ala Glu Phe Arg Asn Val Tyr Ile Ser Lys Gly Gly Asp Tyr  
 465 470 475 480  
 Gln Leu Lys Leu Thr Tyr Tyr Ser Gly Asp Lys Arg Asp Ile Gln Ile  
 485 490 495  
 Ala Val Asn Gly Thr Glu Tyr Lys Gln Ser Asn Leu Tyr Ser Gly Thr  
 500 505 510  
 Trp Asp Gln Ala Ala Thr Thr Thr Ile Lys Val Lys Leu Arg Lys Gly  
 515 520 525  
 Tyr Asn Thr Ile Arg Leu Tyr Asn Ser Tyr Gly Trp Ala Pro Asp Ile  
 530 535 540  
 Asp Lys Met Glu Ile Ile Lys Gly Arg  
 545 550

&lt;210&gt; 5270

&lt;211&gt; 449

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5270

Ile Thr Arg Gln Phe Met Lys Asn Thr Asn Arg Ser Ile Leu His Lys  
 1 5 10 15  
 Asp Gly Val Ser Tyr Ile Leu Pro Phe Ile Leu Val Thr Ser Cys Phe  
 20 25 30  
 Ala Leu Trp Gly Phe Ala Asn Asp Ile Thr Asn Pro Met Val Lys Ala  
 35 40 45  
 Phe Ser Lys Ile Phe Arg Met Ser Val Thr Asp Gly Ala Leu Val Gln  
 50 55 60  
 Val Ala Phe Tyr Gly Gly Tyr Phe Ala Met Ala Phe Pro Ala Ala Met  
 65 70 75 80  
 Phe Ile Arg Lys Tyr Ser Tyr Lys Ala Gly Ile Leu Leu Gly Leu Gly  
 85 90 95  
 Leu Tyr Ala Leu Gly Ala Leu Leu Phe Phe Pro Ala Lys Met Thr Gly  
 100 105 110  
 Asp Tyr Tyr Pro Phe Leu Leu Ala Tyr Phe Ile Leu Thr Cys Gly Leu  
 115 120 125  
 Ser Phe Leu Glu Thr Ser Ala Asn Pro Tyr Ile Leu Ser Met Gly Thr  
 130 135 140  
 Glu Glu Thr Ala Thr Arg Arg Leu Asn Leu Ala Gln Ser Phe Asn Pro  
 145 150 155 160  
 Met Gly Ser Leu Leu Gly Met Tyr Val Ala Met Asn Phe Ile Gln Ala  
 165 170 175

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Arg Leu Asn Pro Met Asp Thr Val Glu Arg Ser Gln Leu Ser Pro Ala
      180      185      190
Glu Phe Glu Val Leu Lys Glu Ser Asp Leu Ser Val Leu Ile Ala Pro
      195      200      205
Tyr Leu Ile Ile Gly Leu Val Ile Leu Ala Met Leu Phe Val Ile Arg
      210      215      220
Ala Val Lys Met Pro Lys Asn Gly Asp Lys Asn His Asn Ile Asp Phe
      225      230      235      240
Ile Pro Thr Leu Lys Arg Ile Phe Lys Ile Pro His Tyr Arg Glu Gly
      245      250      255
Val Ile Ala Gln Phe Phe Tyr Val Gly Ala Gln Ile Met Cys Trp Thr
      260      265      270
Phe Val Ile Gln Tyr Gly Thr Arg Leu Phe Met Ser Gln Gly Met Glu
      275      280      285
Glu Lys Ala Ala Glu Val Leu Ser Gln Glu Tyr Asn Ile Ile Ala Met
      290      295      300
Ile Ile Phe Cys Ile Ser Pro Phe Arg Val Tyr Ile Tyr Ser Ser Leu
      305      310      315      320
Pro Glu Ser Gly Asp Ala Ser Gln Asp Ser Cys Asp Cys Gly Trp Cys
      325      330      335
Phe Tyr Val Arg Cys Asp Phe Phe Ala Arg His Met Gly Ile Val Leu
      340      345      350
Phe Ser Ser Cys Phe Gly Leu Tyr Val Thr Asn Val Ser His Asp Leu
      355      360      365
Trp Pro Leu Leu Phe Val Val Trp Val Met Met Pro Asn Leu Gly Ala
      370      375      380
Ala Gly Leu Ile Met Ala Ile Leu Gly Gly Ser Val Leu Pro Pro Leu
      385      390      395      400
Gln Ala Cys Ile Ile Asp Gln His Thr Leu Leu Gly Met Pro Ala Val
      405      410      415
Asn Leu Ser Phe Ile Leu Pro Phe Ile Cys Phe Val Val Ile Ile Ile
      420      425      430
Tyr Gly His Arg Thr Cys Ala Arg Val Lys Lys Ile Lys Ala Ala Arg
      435      440      445
Lys

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&lt;210&gt; 5271

&lt;211&gt; 573

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5271

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Ala Lys Arg His Ile Pro Leu Ile Arg Leu Ser Asn Trp Asn Arg Asn
1      5      10      15
Leu Thr Ser Leu Thr Lys Gly Leu Asn Phe Lys Ala Leu Val Ser Phe
      20      25      30
Lys Asn Trp Ser Lys Thr Thr Val Asn Arg Ser Phe Ser Pro Tyr Phe
      35      40      45
Tyr Glu Leu Gln Asn Pro Gln Glu Gln Glu Asp Gly Ser Tyr Leu Tyr
      50      55      60
Asp Tyr Asn Ser Ile Ser Lys Gly Arg Thr Ala Leu Glu Thr Ser Thr
      65      70      75      80
Ser Thr Thr Gly Asp Arg Leu Met Asn Leu Gln Ala Thr Leu Asn Tyr
      85      90      95
Gln Arg Met Phe Gly Asp Lys His Asp Val Gly Ala Met Leu Val Tyr
      100      105      110
Leu Gln Arg Glu Tyr Asn Leu Asn Asn Pro Asp Asn Asn Tyr Tyr Asn
      115      120      125

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Thr Leu Pro Glu Arg Asn Gln Gly Leu Ala Gly Arg Val Thr Tyr Ala  
 130 135 140  
 Tyr Asp Gly Arg Tyr Leu Ala Glu Phe Asn Phe Gly Tyr Asn Gly Ser  
 145 150 155 160  
 Glu Asn Phe Glu Lys Gly Ser Arg Tyr Gly Phe Phe Pro Ser Leu Ala  
 165 170 175  
 Val Gly Tyr Leu Ile Ser Asn Glu Lys Phe Phe Glu Pro Leu Thr Lys  
 180 185 190  
 Val Ile Ser Asn Leu Lys Ile Arg Ala Ser Tyr Gly Leu Val Gly Asn  
 195 200 205  
 Ala Asp Ile Gly Ser Asn Arg Phe Pro Tyr Leu Thr Lys Val Asp Leu  
 210 215 220  
 Gly Gly Ala Gly Phe Val Phe Gly Asp Gln Trp Gln Thr Ser Ser Asn  
 225 230 235 240  
 Gly Ala Thr Ile Thr Thr Tyr Gly Ala Glu Lys Val Thr Trp Glu Ile  
 245 250 255  
 Gly Lys Lys Tyr Asn Val Gly Phe Asp Leu Gly Leu Phe Asn Lys Leu  
 260 265 270  
 Ser Leu Asn Val Asp Phe Phe Arg Glu Asp Arg Lys Asp Ile Phe Leu  
 275 280 285  
 Arg Arg Asn Thr Ile Pro Ala Glu Ser Gly Ile Thr Gly Asp Leu Arg  
 290 295 300  
 Pro Tyr Gly Asn Leu Gly Lys Val Arg Asn Gln Gly Val Asp Met Ser  
 305 310 315 320  
 Leu Asp Tyr Asn His Ala Val Ser Lys Asp Phe Met Ile Ser Ala Lys  
 325 330 335  
 Gly Thr Phe Thr Tyr Ala Lys Asn Gln Tyr Met Glu Ile Asp Glu Pro  
 340 345 350  
 Asp Tyr Glu Tyr Ala Tyr Met Ser Gln Val Gly Arg Pro Leu Asn Gln  
 355 360 365  
 Tyr Lys Gly Tyr Ile Ala Leu Gly Leu Phe Lys Asp Gln Glu Glu Ile  
 370 375 380  
 Asp Asn Ser Pro Lys Gln Ile Leu Thr Gly Val Val Gln Pro Gly Asp  
 385 390 395 400  
 Ile Lys Tyr Ala Asp Leu Asn Asn Asp Gly Lys Ile Asp Gly Asn Asp  
 405 410 415  
 Gln Thr Tyr Ile Gly Asn Pro Glu Leu Pro Gln Ile Ser Tyr Gly Leu  
 420 425 430  
 Gly Val Ser Ile Gln Tyr Lys Lys Trp Asp Ala Ser Ile Phe Phe Gln  
 435 440 445  
 Gly Val Gly Lys Arg Ser Ile Met Leu Ser Asp Ile His Pro Phe Gly  
 450 455 460  
 Gly Glu Ser Tyr Gly Val Met Gln Phe Val Ala Asp Asn His Trp Thr  
 465 470 475 480  
 Glu Ala Asn Pro Asn Pro Glu Ala Met Tyr Pro Arg Leu Thr Asn Gly  
 485 490 495  
 Lys Asn Asn Asn Asn Asn Pro Asn Ser Thr Tyr Trp Leu Arg Asp Gly  
 500 505 510  
 Ser Tyr Ile Arg Leu Lys Asn Val Glu Leu Gly Tyr Ser Tyr Lys Phe  
 515 520 525  
 Leu Arg Ala Tyr Ile Ser Gly Gln Asn Leu Leu Thr Phe Ser Lys Phe  
 530 535 540  
 Lys Leu Trp Asp Pro Glu Leu Tyr Thr Ser Asn Gly Leu Lys Tyr Pro  
 545 550 555 560  
 Thr Gln Ile Met Gly Ser Ile Gly Leu Gln Phe Thr Phe  
 565 570

&lt;210&gt; 5272

&lt;211&gt; 555

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5272

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Asn Gln Cys Lys Cys Met Lys Lys Lys Ala Ile Pro Cys His Lys Ala
1      5      10      15
Gly Arg Ile Thr Ser Phe Phe Leu Leu Ile Ser Ile Phe Leu Leu Ile
      20      25      30
Pro Ser Ile Thr Thr Pro Val Tyr Ala Val Glu Thr Tyr Thr Gln Gln
      35      40      45
Thr Val Phe Thr Leu His Ala Thr Asn Lys Thr Val Lys Glu Val Phe
      50      55      60
Glu Tyr Ile Glu Lys Asn Ser Glu Phe Val Val Leu Tyr Ser Lys Asp
65      70      75      80
Leu Leu Pro Val Leu Gln Lys Lys Val Ser Val Ser Ile Asp Lys Gln
      85      90      95
Asn Val Glu Ser Ile Leu Asn Ile Leu Ser Lys Glu Ala Gly Leu Lys
      100     105     110
Tyr Asn Ile Asn Asp Arg Gln Ile Thr Ile Thr Lys Val Thr Ala Glu
      115     120     125
Ala Pro Gln Gln Glu Lys Lys Ile Lys Ile Thr Gly Gln Val Leu Asp
      130     135     140
Glu Asn Gly Glu Gly Ile Pro Gly Ala Asn Ile Val Ile Lys Gly Asn
145     150     155     160
Ser Thr Leu Gly Thr Val Thr Asn Val Glu Gly Asn Phe Thr Leu Met
      165     170     175
Ala Pro Glu Asn Ser Thr Leu Val Ala Ser Phe Ile Gly Tyr Thr Pro
      180     185     190
Val Glu Ile Pro Leu Lys Gly Lys Lys Ile Val Val Phe Lys Leu Val
      195     200     205
Pro Asp Ala Gln Ser Leu Glu Glu Val Val Val Val Gly Phe Gly Thr
      210     215     220
Gln Lys Lys Ala Ser Val Val Gly Ala Val Gln Ser Ile Lys Pro Ala
225     230     235     240
Glu Leu Arg Val Pro Ser Ser Asn Leu Ser Thr Ser Phe Ala Gly Arg
      245     250     255
Ile Ala Gly Val Ile Ser Met Gln Arg Thr Gly Glu Pro Gly Ala Asp
      260     265     270
Gly Ala Asn Phe Trp Ile Arg Gly Ala Ala Thr Phe Ser Gly Thr Thr
      275     280     285
Asp Pro Leu Ile Phe Ile Asp Gly Val Glu Val Ser Ala Gly Asp Met
      290     295     300
Asn Ala Ile Pro Ser Glu Ala Ile Glu Asn Phe Ser Ile Leu Lys Asp
305     310     315     320
Ala Ser Ala Thr Ala Leu Tyr Gly Ala Arg Gly Ala Asn Gly Val Ile
      325     330     335
Leu Ile Thr Thr Arg Thr Gly Lys Asp Leu Glu Lys Ala Arg Ile Asn
      340     345     350
Val Arg Ile Asp Asn Thr Phe Thr Ala Pro Thr Arg Thr Leu Lys Leu
      355     360     365
Ala Asp Ala Val Thr Ala Met Lys Leu Arg Asn Glu Ala Ile Leu Thr
      370     375     380
Arg Asn Pro Asp Gly Thr Pro Ala Phe Ser Asp Lys Ile Gln Gly
385     390     395     400
Thr Leu Glu Gly Arg Asn Gln Tyr Val Tyr Pro Asn Val Asp Trp Phe
      405     410     415
Asp Tyr Met Phe Lys Asp Tyr Ser Met Asn Gln Ser Ala Asn Leu Asn
      420     425     430
Val Met Gly Gly Thr Lys Lys Val Asp Tyr Phe Ile Ser Ala Ser Ile

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435	440	445
Asn Asn Asp Asn Gly Met Leu Lys Lys Asp Pro Asn Asn Thr Phe Asp		
450	455	460
Asn Asn Ile Gln Asn Leu Arg Tyr Ser Phe Gln Ser Asn Val Gly Ala		
465	470	475
Trp Leu Thr Ser Ser Thr Lys Val Asn Val Arg Ile Asn Ser Gln Ile		
485	490	495
Val Asn Tyr Asn Gly Pro Ser Thr Ser Met Asp Asp Leu Tyr Lys Tyr		
500	505	510
Val Met Glu Ala Pro Ser Met Tyr Phe Ala Pro Val Tyr Pro Asn Ile		
515	520	525
Asn Arg Glu Asp His Thr Ile Phe Gly Asn Lys Ser Gly Gly Pro Ile		
530	535	540
Gly Ser Glu Gly Phe Ser Ile Tyr Arg Asn Pro		
545	550	555

&lt;210&gt; 5273

&lt;211&gt; 136

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5273

Ile Leu Arg Lys Glu Val Tyr Ile Leu Tyr Phe Cys Ser Ala His Met	
1 5 10 15	
Val Thr Ile Thr Leu Tyr Met Asn Asn Asn Ile Glu Tyr Ile Ser Lys	
20 25 30	
Ile Lys Lys Gly Glu Glu Thr Ser Phe Arg His Phe Val Asn Ser Tyr	
35 40 45	
Ser Lys Asp Leu Phe Tyr Tyr Ala Gln Cys Phe Val Arg Ser Lys Glu	
50 55 60	
Thr Ala Glu Glu Val Val Ser Asp Val Phe Leu Asp Val Trp Arg His	
65 70 75 80	
Arg Glu Glu Ile Asp Glu Ile Lys Asn Ile Lys Ala Trp Leu Leu Thr	
85 90 95	
Leu Thr His Asn Lys Ala Ile Phe Tyr Leu Arg Lys Ala Glu Asn Ser	
100 105 110	
Ser Glu Ile Ala Ser Trp Glu Glu Ile Asp Asp Phe Gln Ile Ile Gly	
115 120 125	
Asn Leu Gln Leu Pro Met Lys Arg	
130 135	

&lt;210&gt; 5274

&lt;211&gt; 616

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5274

Ile Ile Met Lys Leu Lys Asn Ile Ile Val Ala Leu Leu Ile Gly Ala	
1 5 10 15	
Ser Leu His Ser Cys Asp Tyr Leu Asp Ile Val Pro Asp Asp Thr Pro	
20 25 30	
Ile Leu Ala Asp Ala Phe Lys Asn Glu Gln Thr Ala Glu Asn Phe Val	
35 40 45	
Phe Ala Cys Tyr Ser Phe Ile Pro Asn Tyr Leu Asn Phe Arg Gln Asn	
50 55 60	
Phe Ser Trp Cys Thr Thr Pro Glu Thr Val Gly Ser Ala His Trp Thr	
65 70 75 80	
Thr Thr Trp Phe Thr Phe Met Arg Met Gln Gln Gly Leu Tyr Asn Ser	
85 90 95	





			565					570					575
Tyr	Tyr	Lys	Asn	Ala	Arg	Leu	Asp	Ala	Gln	Pro	Phe	Ile	Phe
			580					585					590
Glu	Gln	Tyr	Leu	Ser	Pro	Ile	Lys	Gln	Asp	Tyr	Leu	Asn	Val
		595					600				605		
Asn	Leu	Val	Gln	Asn	Pro	Gly	Trp						
	610					615							

&lt;210&gt; 5275

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5275

Thr	Ile	Lys	Lys	Glu	Lys	Gly	Cys	Arg	Asn	Pro	Ser	Phe	Ile	Ile	Tyr
1				5					10					15	
Leu	Tyr	Gly	Ser	Val	Val	Gly	Ser	Asn	Thr	Val	Arg	Tyr	Leu	Leu	Arg
			20					25					30		
Leu	Pro	Leu	Val	Asp	Gly	Gly	Lys	Thr	Asp	Leu	Leu	Pro	Lys	Lys	Val
		35					40					45			
Lys	Asp	Arg	Ala	Leu	Lys	Ser	Phe	Asn	Thr	Phe	Gln	Gln	Ala	Pro	Ile
	50					55					60				
Lys	His	Lys	Lys	Met	Ser	Gln	Lys	Gln	Gln	Leu	Ser	Arg	His	Phe	Asn
65					70					75					80
Ile	Cys	Gln	Asn	Thr	His	Ala	Ser	Glu	His	Leu	Thr	Asp	Pro	Phe	Asp
				85					90					95	
Thr	Ser	Tyr	Lys	Ser	Ile	Asn	Phe	Leu	Phe	Cys	Ile	Ile	His	Gly	Lys
			100					105					110		

&lt;210&gt; 5276

&lt;211&gt; 377

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5276

Lys	Gln	His	Glu	Ser	Asn	Ile	Glu	Asn	Arg	Met	Arg	Cys	Leu	Thr	Ile
1				5					10					15	
Leu	Leu	Gly	Asn	Cys	Phe	Leu	Leu	Leu	Val	Ser	Leu	Ala	Ser	Cys	Gly
			20					25					30		
Lys	Val	Ser	Leu	Ala	Glu	Glu	Ala	Val	Phe	Ser	Ile	Pro	Val	Asp	Thr
		35					40					45			
Thr	Phe	Met	Arg	Leu	Arg	Gln	Trp	Glu	Trp	Tyr	Cys	Gln	Lys	Arg	Ala
	50					55					60				
Asp	Ser	Cys	Leu	Thr	Glu	Asn	Asn	Tyr	Gln	Gly	Ala	Leu	Ser	Trp	Leu
65					70				75						80
Asp	Ser	Ala	Arg	Ile	Gln	Val	Glu	His	Tyr	Gly	Arg	Pro	Tyr	Tyr	Ile
				85					90					95	
Leu	Ala	Arg	Gly	Asp	Val	Tyr	Tyr	Ser	Ile	His	Gln	Tyr	Asp	Ser	Ala
			100					105					110		
Arg	Arg	Tyr	Phe	Ser	Met	Ala	Val	His	Ser	Ile	His	Pro	His	Ile	Ala
		115					120					125			
Ile	Glu	Ala	Trp	Arg	Lys	Leu	Ala	Glu	Leu	Glu	Leu	Met	Glu	Gly	Asn
	130					135					140				
Glu	Lys	Gln	Gly	Phe	Tyr	Ser	Thr	Gln	Lys	Ala	Asp	Ala	Leu	Phe	Arg
145					150					155					160
Val	Glu	Ile	Gly	His	Val	Gln	Ser	Asp	Asn	Ser	Glu	Ala	Leu	Tyr	Gln
				165					170					175	
Glu	Glu	Arg	Leu	Lys	Asn	Glu	Leu	Asn	Gln	Leu	Lys	Ile	Ala	Lys	Gln
			180					185					190		

```

Asn Arg Glu Ile Ala Met Leu Thr Leu Ser Leu Cys Leu Ile Ile Leu
 195                200                205
Ile Ala Leu Phe Ile Phe Tyr Arg Gln Asn Lys Ile Lys Arg Glu Lys
 210                215                220
Glu Arg Leu Leu Leu Glu Lys Ala Lys Leu Glu Gln Glu Asn Gln
 225                230                235                240
Ile Leu Lys Gln Thr Glu Glu Leu Ser Ala Leu Arg Glu Lys Glu Ala
                245                250                255
Val Leu Arg Glu Ser Leu Phe Arg Lys Val Asp Val Leu Arg Lys Ile
 260                265                270
Pro Ser Leu Asn Glu Glu Glu Gln Glu Ser Gly Glu His Arg Ile Ala
 275                280                285
Leu Ser Glu Arg Glu Trp Glu Glu Ile Arg Gln Thr Val Asp Asn Ala
 290                295                300
Tyr Asp Gly Phe Ser Gln Arg Leu Leu Ala Arg Phe Pro Leu Leu Thr
 305                310                315                320
Leu Lys Asp Ile Tyr Phe Cys Cys Leu Val Lys Ile Asn Val Ser Ile
                325                330                335
Lys Asp Leu Ser Asp Ile Tyr Cys Ile Ser Arg Thr Ser Val Ser Lys
 340                345                350
Lys Lys Phe Arg Ile Lys Arg Glu Lys Leu Gly Ala Glu Asp Ser Asp
 355                360                365
Ser Leu Asp Asp Phe Leu Arg Gly Phe
 370                375

```

&lt;210&gt; 5277

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (76)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 5277

```

Ser Met Ile Glu Lys Arg Thr Val Cys Gln Ile Val Glu Glu Trp Leu
 1          5          10          15
Glu Asp Lys Asp Tyr Phe Leu Val Glu Val Thr Val Ser Pro Asp Asp
 20          25          30
Lys Ile Val Val Glu Ile Asp His Ala Glu Gly Val Trp Ile Glu Asp
 35          40          45
Cys Val Glu Leu Ser Arg Phe Ile Glu Ser Lys Leu Asn Arg Glu Glu
 50          55          60
Glu Asp Tyr Glu Leu Glu Val Arg Ser Ala Gly Xaa Arg Gln Pro Phe
 65          70          75          80
Lys Val Leu Gln Gln Tyr Tyr Asn His Ile Gly Leu Glu Val Glu Val
 85          90          95
Leu Thr Lys Gly Gly Arg Lys Leu Ser Gly Val Leu Lys Asp Ala Asp
 100         105         110
Glu Glu Lys Phe Val Val Thr Val Gln Lys Lys Val Lys Pro Glu Gly
 115         120         125
Ala Lys Arg Pro Gln Leu Val Glu Glu Asp Glu Thr Phe Thr Tyr Asp
 130         135         140
Asp Ile Lys Tyr Thr Lys Tyr Leu Ile Ser Phe Lys
 145         150         155

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&lt;210&gt; 5278

&lt;211&gt; 521

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5278

```

Pro Asn Lys Glu Gly Ala Val Leu Val Ile Leu Ser Tyr Gly Lys Leu
1          5          10          15
Cys Gly Asp Leu Leu Ser Cys Ser Lys Arg Gly Tyr Thr Thr Ile Tyr
20          25          30
Ile Gln Ile Lys Met Met Gln Gln Glu Glu Pro Asn Lys Tyr Val Lys
35          40          45
Glu Leu Thr Gln Glu Lys Tyr Lys Tyr Gly Phe Thr Thr Glu Val His
50          55          60
Thr Asp Ile Ile Glu Lys Gly Leu Asn Glu Asp Val Val Arg Leu Ile
65          70          75          80
Ser Ser Lys Lys Asn Glu Pro Glu Trp Leu Leu Glu Phe Arg Leu Lys
85          90          95
Ala Tyr Arg His Trp Leu Thr Leu Glu Met Pro Thr Trp Ala His Leu
100         105         110
Arg Ile Pro Glu Ile Asp Tyr Gln Ala Ile Ser Tyr Tyr Ala Asp Pro
115         120         125
Thr Lys Lys Lys Glu Gly Pro Lys Ser Met Asp Glu Val Asp Pro Glu
130         135         140
Leu Ile Lys Thr Phe Asn Lys Leu Gly Ile Pro Leu Glu Glu Gln Met
145         150         155         160
Ala Leu Ser Gly Met Ala Val Asp Ala Val Met Asp Ser Val Ser Val
165         170         175
Lys Thr Thr Phe Lys Glu Thr Leu Met Glu Lys Gly Ile Ile Phe Cys
180         185         190
Ser Phe Ser Glu Ala Val Arg Glu His Pro Asp Leu Val Lys Lys Tyr
195         200         205
Leu Gly Ser Val Val Gly Tyr Arg Asp Asn Phe Phe Ala Ala Leu Asn
210         215         220
Ser Ala Val Phe Ser Asp Gly Ser Phe Val Tyr Ile Pro Lys Gly Val
225         230         235         240
Arg Cys Pro Met Glu Leu Ser Thr Tyr Phe Arg Ile Asn Ala Ala Asn
245         250         255
Thr Gly Gln Phe Glu Arg Thr Leu Ile Val Ala Asp Asp Asp Ser Tyr
260         265         270
Val Ser Tyr Leu Glu Gly Cys Thr Ala Pro Met Arg Asp Glu Asn Gln
275         280         285
Leu His Ala Ala Ile Val Glu Ile Met Val His Asp Arg Ala Glu Val
290         295         300
Lys Tyr Ser Thr Val Gln Asn Trp Tyr Pro Gly Asp Ala Glu Gly Lys
305         310         315         320
Gly Gly Val Tyr Asn Phe Val Thr Lys Arg Gly Asn Cys Lys Gly Val
325         330         335
Asp Ser Lys Leu Ser Trp Thr Gln Val Glu Thr Gly Ser Ala Ile Thr
340         345         350
Trp Lys Tyr Pro Ser Cys Ile Leu Ser Gly Asp Asn Ser Thr Ala Glu
355         360         365
Phe Tyr Ser Val Ala Val Thr Asn Asn Tyr Gln Gln Ala Asp Thr Gly
370         375         380
Thr Lys Met Ile His Leu Gly Lys Asn Thr Arg Ser Thr Ile Val Ser
385         390         395         400
Lys Gly Ile Ser Ala Gly Lys Ser Glu Asn Ser Tyr Arg Gly Leu Val
405         410         415
Arg Val Ala Glu Lys Ala Asp Asn Ala Arg Asn Tyr Ser Gln Cys Asp
420         425         430
Ser Leu Leu Leu Gly Asp Lys Cys Gly Ala His Thr Phe Pro Tyr Met

```

435	440	445
Asp Ile His Asn Glu Thr	Ala Val Val Glu His Glu	Ala Thr Thr Ser
450	455	460
Lys Ile Ser Glu Asp Gln	Ile Phe Tyr Cys Asn Gln Arg Gly	Ile Ser
465	470	475
Thr Glu Asp Ala Ile Gly	Leu Ile Val Asn Gly Tyr Ala Lys	Glu Val
485	490	495
Leu Asn Lys Leu Pro Met Glu	Phe Ala Val Glu Ala Gln Lys	Leu Leu
500	505	510
Thr Ile Ser Leu Glu Gly	Ser Val Gly	
515	520	

&lt;210&gt; 5279

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5279

Pro Arg His Trp Arg Arg	Phe His Leu Ala Gly	Leu Asn Arg Met Leu
1	5	10
Glu Ala Gly Leu Gly	Ala Leu Lys Tyr	Leu Leu Val Ser Leu Val
20	25	30
Ile Cys Val Ile Gln	Phe Ile Asp Ser	Ser Gln Leu Ile Ser Gln
35	40	45
Thr Lys Lys Glu Gln	Ser Leu Leu Tyr Tyr	Leu Met Glu Ser Phe Ala
50	55	60
Gly Ile Phe Phe Pro	Ala Ala Lys Glu Val	Thr Gln Gln Tyr Ile Phe
65	70	75
Lys		80

&lt;210&gt; 5280

&lt;211&gt; 446

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5280

Leu Phe Thr Trp Phe	Leu Val Leu Gly Asn	Leu Phe Val His Ala Asn
1	5	10
Leu Arg Asn Ile Leu	Tyr Asn Met Leu Ile	Tyr Ser Val Val Ser Tyr
20	25	30
Phe Phe Leu Lys Tyr	Phe Val Tyr Ile Pro	Phe Cys Phe Ser Ser Ala
35	40	45
Arg Trp Leu Ile Leu	Gln Tyr Gln Asn Phe	Lys Asn Val Arg Asp Met
50	55	60
Leu Asn Arg Leu Asn	Tyr Phe Ile Met Leu	Ala Gly Leu Leu Val Leu
65	70	75
Val Ala Cys Ser Ser	Asn Ser Gly Lys Gln	Val Glu Val Ala Asn Thr
85	90	95
Pro Phe Val Tyr Asp	Gly Leu Lys Glu Tyr	Pro Val Lys Glu Leu Lys
100	105	110
Leu Ser Asp Leu Ala	Val Ser Asp Tyr Val	Leu Leu Lys Asp Asp Glu
115	120	125
Asn Ser Leu Leu Gly	Arg Leu Pro Thr Asn	Pro Cys Met Gln Val Thr
130	135	140
Glu Asp Arg Ile Tyr	Ile Gln Asp Glu Glu	Gln Ala Ile Phe Ile
145	150	155
Phe Asp Arg Gln Gly	Asn Pro Leu Leu Gln	Met Arg His Lys Gly Gly
165	170	175

Gly Pro Gln Glu Trp Ala Ser Leu Asn Ser Phe Tyr Val Asp Ser Pro  
 180 185 190  
 Asn Lys Glu Ile Ile Val Leu Asp Trp Ala Lys Lys Phe Ile Val Tyr  
 195 200 205  
 Asp Leu Asn Gly Lys Phe Lys Arg Ser Phe Pro Thr Pro Gly Cys Ser  
 210 215 220  
 Trp Lys Phe Ala Asn Leu Asn Asp Glu Ala Val Leu Ile Tyr Cys Pro  
 225 230 235 240  
 Phe Thr Asn Arg Asn Asn Gly Glu Ala Val Cys Ile Leu Ser Lys Lys  
 245 250 255  
 Asp Gly Lys Lys Leu Tyr Val Cys Pro Ile Thr Ile Asp Asn Phe Val  
 260 265 270  
 Trp Asp Ser Glu Gly Arg Ile Gly Tyr Glu Pro Leu Lys Pro Ala Tyr  
 275 280 285  
 Gly Gly Ile Leu Phe Ser Asp Leu Ser Leu Lys Gly Val Tyr Phe Ile  
 290 295 300  
 Asp Ala Glu Thr Tyr Glu Val Lys Gln Val Ile Asp Glu Val Thr Glu  
 305 310 315 320  
 Tyr Lys Phe Glu Asn Ala Glu Phe Val Lys Leu His Pro Ala Ile Asp  
 325 330 335  
 Ala Lys Asp Tyr Thr Leu Tyr Thr Thr Leu Gly Thr Lys Trp Leu Thr  
 340 345 350  
 Pro Asp Met Pro Met Asn Tyr Tyr Phe Asp Lys Lys Glu Gln Lys  
 355 360 365  
 Met Tyr Thr Leu Lys Asn Glu Thr Gly Trp Ala Val Leu Lys Asp Ile  
 370 375 380  
 Cys Asn Val Gln Arg Thr Arg Thr Thr Asn Thr Pro Gly Ile Gly Ile  
 385 390 395 400  
 Gly Tyr Tyr Trp Pro Ser Thr Met Lys Gly Glu Ser Met Gln Ala Glu  
 405 410 415  
 Lys Glu Gln Phe Asp Ser Arg Phe Arg Ala Ile Met Asp Ser Ile Pro  
 420 425 430  
 Glu Glu Gly Asn Pro Val Leu Gln Ile Met Asn Phe Asn Lys  
 435 440 445

&lt;210&gt; 5281

&lt;211&gt; 89

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5281

Leu Gln Leu Arg Val Ser Val Phe Val Leu His Arg Met Thr Thr Ile  
 1 5 10 15  
 Asp Ile Ile Ile Leu Ile Ala Leu Gly Ala Gly Val Ile Val Gly Phe  
 20 25 30  
 Met Lys Gly Phe Ile Arg Gln Leu Ala Ser Ile Leu Gly Leu Ile Val  
 35 40 45  
 Gly Leu Leu Ala Ala Lys Ala Phe Val His Leu Thr Gly Cys Glu Val  
 50 55 60  
 Met Pro Tyr Gly Asp Arg Leu His Asp Cys Gly Ala Asp Thr Gly Ile  
 65 70 75 80  
 Tyr His Tyr Leu Asp Arg Cys Gly Arg  
 85

&lt;210&gt; 5282

&lt;211&gt; 456

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5282

Glu Gly Ile Arg Arg Met Ser Leu Ile Met Asn Ala Glu Gln Gln Tyr  
 1 5 10 15  
 Ile Asp Leu Phe Ser Gln Cys Glu Ala Met Ile Cys Arg His Ser Ala  
 20 25 30  
 Glu Ala Leu Asn Ala Pro Arg Ala Thr Ala Phe Ala Asp Phe Glu Arg  
 35 40 45  
 Gln Gly Phe Pro Thr Arg Lys Gln Glu Lys Tyr Lys Tyr Thr Asp Val  
 50 55 60  
 Ser Lys Phe Phe Glu Pro Asp Tyr Gly Leu Asn Leu Asn Arg Leu Pro  
 65 70 75 80  
 Ile Pro Val Asn Pro Tyr Glu Val Phe Lys Cys Asp Val Pro Asn Met  
 85 90 95  
 Ser Thr Ser Leu Phe Phe Val Val Asn Asp Ala Phe Tyr Asn Gln Val  
 100 105 110  
 Leu Pro Lys Ser Gly Leu Pro Glu Gly Val Ile Phe Gly Ser Leu Arg  
 115 120 125  
 Asn Met Ala Glu Gln His Pro Glu Leu Val Lys Lys Tyr Tyr Gly Lys  
 130 135 140  
 Leu Ala Asp Thr Ser Lys Asp Ala Val Thr Ala Phe Asn Thr Ala Phe  
 145 150 155 160  
 Ala Gln Asp Gly Val Leu Met Tyr Val Pro Lys Asn Val Ile Val Asp  
 165 170 175  
 Arg Pro Ile Gln Leu Val Asn Ile Leu Arg Ala Asp Val Asn Phe Met  
 180 185 190  
 Val Asn Arg Arg Val Leu Ile Ile Leu Glu Glu Gly Ala Gln Ala Arg  
 195 200 205  
 Leu Leu Ile Cys Asp His Ala Met Asp Asn Val Asn Phe Leu Ala Thr  
 210 215 220  
 Gln Val Ile Glu Val Phe Ala Glu Glu Asn Ser Val Phe Asp Leu Tyr  
 225 230 235 240  
 Glu Leu Glu Glu Thr His Thr Ser Thr Val Arg Phe Ser Asn Leu Tyr  
 245 250 255  
 Val Lys Gln Gly Ala Asn Ser Asn Val Leu Leu Asn Gly Met Thr Leu  
 260 265 270  
 His Asn Gly Thr Thr Arg Asn Thr Thr Glu Val Thr Leu Ala Gly Glu  
 275 280 285  
 Gly Ala Glu Ile Asn Leu Cys Gly Met Ala Ile Ala Asp Lys Asn Gln  
 290 295 300  
 His Val Asp Asn Asn Thr Ser Ile Asp His Ala Val Pro Asn Cys Thr  
 305 310 315 320  
 Ser Asn Glu Leu Phe Lys Tyr Val Leu Asp Asp Gln Ser Val Gly Ala  
 325 330 335  
 Phe Ala Gly Leu Val Leu Val Arg Pro Asp Ala Gln His Thr Ser Ser  
 340 345 350  
 Gln Gln Thr Asn Arg Asn Leu Cys Ala Thr Arg Asp Ala Arg Met Tyr  
 355 360 365  
 Thr Gln Pro Gln Leu Glu Ile Tyr Ala Asp Asp Val Lys Cys Ser His  
 370 375 380  
 Gly Ala Thr Val Gly Gln Leu Asp Glu Asn Ala Leu Phe Tyr Met Arg  
 385 390 395 400  
 Ala Arg Gly Ile Ala Glu Lys Glu Ala Arg Leu Leu Leu Met Phe Ala  
 405 410 415  
 Phe Val Asn Glu Val Ile Asp Thr Ile Arg Leu Lys Ala Leu Lys Asp  
 420 425 430  
 Arg Leu His Leu Leu Val Glu Lys Arg Phe Arg Gly Glu Leu Asn Lys  
 435 440 445  
 Cys Gln Gly Cys Ser Ile Cys Lys  
 450 455

<210> 5283  
 <211> 253  
 <212> PRT  
 <213> B.fragilis

<400> 5283

```

Arg Gln Cys Arg Ile Met Lys Thr Lys Arg Val Gly Trp Leu Leu Ile
1      5      10      15
Phe Leu Ser Tyr Val Gly Val Val Leu Ala Gln Asn Leu Asp Asp Gln
20      25      30
Glu Arg Arg Trp Ala Ile Ser Gly Ser Trp Gly Gly Asn Trp Pro Ile
35      40      45
Val Thr Lys Asn Thr Leu Ser Gly Lys Ala Val Ser Ala Gly His Ile
50      55      60
His Thr Leu Met Leu Glu Tyr Tyr Ile Pro Tyr Thr Arg Phe Ser Leu
65      70      75      80
Lys Gly Gly Tyr Thr Gly Glu Glu Ile Gly Leu Asn Pro Gly Ile Ser
85      90      95
Ala Ser Met Ser Asn Leu Glu Ile Gly Gly Arg Tyr Tyr Phe Leu Pro
100     105     110
Gln Arg Phe Ala Ile Gln Pro Tyr Gly Gly Leu Ser Thr Gly Trp Asn
115     120     125
Leu Ser Pro Arg Arg Gln Glu Gly Met Gly Ser Ser Ser Tyr Tyr Asp
130     135     140
Pro Ser Arg Gln Glu Phe Arg Lys Asp Tyr Asp Tyr Arg Tyr Arg Ile
145     150     155     160
Lys Glu Pro Leu Phe Thr Val Ser Pro Val Val Gly Ala Asp Ile Tyr
165     170     175
Phe Leu Ser Cys Leu Ala Leu Thr Leu Glu Tyr Asn Phe Arg Met Gly
180     185     190
Ile Ala Gly Lys Ile Ser Gly Glu Ile Glu Lys Thr Asn Ser Arg Gly
195     200     205
Thr Gly Phe Val Arg Ser Asn Gly Met Arg Gln Thr Val Ser Val Gly
210     215     220
Val Lys Val Asn Phe Pro Phe Thr Ile Thr Gln Thr Asp Gly Asn Ser
225     230     235     240
Ile Leu Gln Trp Leu Asp Glu Val Ile Phe Gly Lys Glu
245     250

```

<210> 5284  
 <211> 292  
 <212> PRT  
 <213> B.fragilis

<400> 5284

```

Glu Asp Gly Gly Gly Ser Ser Met Asp Thr Ala Lys Ala Ile Gly Ile
1      5      10      15
Ile Thr Asn Asn Pro Glu Phe Ser Asp Val Val Ser Leu Glu Gly Val
20      25      30
Ala Asp Thr Lys Lys Lys Ser Val Pro Ile Ile Ala Leu Pro Thr Thr
35      40      45
Ala Gly Thr Ala Ala Glu Val Thr Ile Asn Tyr Val Ile Thr Asp Glu
50      55      60
Lys Asn Gln Lys Lys Met Val Cys Val Asp Pro Asn Asp Ile Pro Ser
65      70      75      80
Ile Ala Ile Val Asp Ala Glu Leu Met Tyr Thr Leu Pro Lys Ser Leu
85      90      95
Thr Ala Ala Thr Gly Leu Asp Ala Leu Thr His Ala Ile Glu Gly Leu

```





210

215

&lt;210&gt; 5286

&lt;211&gt; 388

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5286

Cys Asn Pro Ile Lys Ile Met Arg Lys Asn Lys Phe Lys Ser Phe Ala  
 1 5 10 15  
 Ser Arg Leu Asn Lys Asp Gly Asp His Pro Glu Lys Ile Ser Phe Glu  
 20 25 30  
 Ser Pro Glu Glu Gln Ala Glu Tyr Asp Lys Leu Asp Phe Leu Trp Asn  
 35 40 45  
 Arg Cys Leu Pro Glu Glu Thr Gly Glu Pro Asp Ile Trp Ala Lys Val  
 50 55 60  
 Gln Ala Lys Ile Asn Ala Asp Asn Thr Pro Val Arg Leu Ala Leu Lys  
 65 70 75 80  
 Ser Asn Lys Thr Ala Arg Leu Phe Ser Ile Leu Lys Tyr Ser Ala Val  
 85 90 95  
 Ala Ala Ser Val Ala Leu Leu Ile Gly Ala Gly Cys Phe Leu Leu Leu  
 100 105 110  
 Asn Asp Glu Glu Arg His Asp Leu Asn Lys Ile Ala Gln Ser Leu Gln  
 115 120 125  
 Thr Glu Ile Pro Gln Asp Ile Lys Glu Val Thr Leu Val Val Ser Asp  
 130 135 140  
 Gln Lys Lys Ile Glu Leu Asp Asn Asn Ala Gln Ile Val Tyr Ser Ala  
 145 150 155 160  
 Thr Gly Gln Val Gln Val Asn Ser Asn Lys Leu Val Glu Asp Asp Ile  
 165 170 175  
 Lys Glu Glu Tyr Asn Gln Ile Ile Val Pro Lys Gly Lys Arg Ser Gln  
 180 185 190  
 Ile Val Leu Ala Asp Asn Ser Lys Ile Trp Ile Asn Ser Gly Ser Lys  
 195 200 205  
 Val Ile Tyr Pro Arg Ala Phe Glu Gly Lys Tyr Arg Glu Ile Tyr Val  
 210 215 220  
 Glu Gly Glu Val Tyr Leu Asn Val Thr His Asp Thr Ser Lys Pro Phe  
 225 230 235 240  
 Ile Val Asn Thr Ser Gly Phe Glu Val Arg Val Leu Gly Thr Ser Phe  
 245 250 255  
 Asn Ile Ser Ala Tyr Lys Asn Gln Glu Lys Ala Ala Val Val Leu Val  
 260 265 270  
 Glu Gly Ser Val Asn Val Lys Asp Gln Gln Asn His His Ile Lys Met  
 275 280 285  
 Val Pro Asn Glu Lys Val Glu Leu Asn Gln Glu Gly Ile Ser Gly Lys  
 290 295 300  
 Glu Lys Val Asn Ala Arg Asp Tyr Ile Ser Trp Ile Asp Gly Ile Trp  
 305 310 315 320  
 Thr Leu Gln Gly Glu Ser Leu Lys Gln Val Leu Leu Arg Leu Gln Asn  
 325 330 335  
 Tyr Tyr Gly Gln Asn Ile Arg Cys Asp Ala Ala Ile Glu Asn Glu Gln  
 340 345 350  
 Met Phe Gly Lys Leu Phe Leu Asn Asp Asp Leu Asn Gln Val Met Lys  
 355 360 365  
 Ser Ile Leu Ser Ile Leu Pro Ala Glu Tyr Thr Met Lys Asn Asn Val  
 370 375 380  
 Ile Tyr Ile Glu  
 385

<210> 5287  
 <211> 488  
 <212> PRT  
 <213> B.fragilis

<400> 5287

```

Leu Gly Gly Ile Cys Ile Gly Lys Glu Asn Lys Ile Asp Asn Asp Tyr
1      5      10      15
Gln Leu Met Ser Thr Tyr Leu Ala Ala Asp Phe Gly Gly Gly Ser Gly
      20      25      30
Arg Ile Met Ala Gly Thr Leu Thr Glu Gly Lys Leu Lys Leu Glu Glu
      35      40      45
Val Tyr Arg Phe Ala Asn Arg Gln Ile Lys Leu Gly Asn Cys Val Tyr
      50      55      60
Trp Asp Phe Leu Ser Leu Phe Glu Glu Met Lys Asn Gly Leu Arg Val
65      70      75      80
Ala Ala Arg Lys Gly Tyr Glu Val Lys Ser Met Ala Ile Asp Thr Trp
      85      90      95
Gly Val Asp Phe Gly Leu Ile Asp Lys Asp Gly Lys Leu Leu Gly Asn
      100     105     110
Pro Val Cys Tyr Arg Asp Ser Arg Thr Asp Gly Ile Pro Glu Arg Val
      115     120     125
Phe Lys Gln Ile Asp Gln Thr Val His Tyr Ala Glu Ile Gly Ile Gln
      130     135     140
Val Met Pro Ile Asn Thr Leu Phe Gln Leu Tyr Ser Met Lys Gln Asn
145     150     155     160
Asp Asp Val Gln Leu Arg Val Ala Asp Lys Leu Leu Phe Met Pro Asp
      165     170     175
Leu Phe Ser Tyr Phe Leu Thr Gly Val Ala Asn Asn Glu Tyr Cys Ile
      180     185     190
Ala Ser Thr Ser Glu Leu Leu Asp Ala Arg Gln Arg Asn Trp Ser Asp
      195     200     205
Asn Leu Ile Ser Glu Leu Gly Leu Pro Arg Gln Leu Phe Gly Glu Ile
      210     215     220
Val Phe Pro Gly Thr Val Arg Gly Lys Leu Lys Gln Glu Ile Ala Asp
225     230     235     240
Glu Thr Gly Leu Gly Cys Ile Asn Val Val Ala Val Gly Ser His Asp
      245     250     255
Thr Ala Ser Ala Val Phe Ala Val Pro Ser Asn Glu Pro Asn Arg Ala
      260     265     270
Tyr Leu Ser Ser Gly Thr Trp Ser Leu Leu Gly Ala Glu Val Asp Gln
      275     280     285
Pro Ile Leu Thr Glu Glu Ala Arg Val Ala Gly Phe Thr Asn Glu Gly
      290     295     300
Gly Ile Gln Gly Lys Ile Arg Phe Leu Gln Asn Ile Thr Gly Leu Trp
305     310     315     320
Ile Leu Gln Arg Leu Met Ala Glu Trp Lys Glu Gln Gly Lys Glu Ile
      325     330     335
Ser Tyr Asp Cys Ala Ile Ala Glu Ala Thr Val Ser Asp Ile Arg Ser
      340     345     350
Val Ile Asp Val Asp Asp Ser Ala Phe Cys Asn Pro Asp His Met Glu
      355     360     365
Glu Ser Ile Ile Lys Tyr Cys His Lys His His Leu Arg Thr Pro Val
      370     375     380
Ser Gln Gly Glu Phe Val Arg Cys Val Ile Glu Ser Leu Ala Tyr Arg
385     390     395     400
Tyr Lys Leu Gly Val Glu Gln Met Asn Arg Cys Leu Pro Ala Pro Val
      405     410     415
Lys Gln Leu His Ile Ile Gly Gly Gly Cys Gln Asn Arg Leu Leu Asn

```

420 425 430  
 Gln Leu Thr Ala Asn Ala Leu Gly Ile Pro Val Tyr Ala Gly Pro Val  
 435 440 445  
 Glu Ala Thr Ala Ile Gly Asn Ile Leu Val Gln Ala Lys Ala Gln Gly  
 450 455 460  
 Glu Val Asp Ser Trp Glu Glu Leu Lys Glu Ile Ile Ile Asn Ser Val  
 465 470 475 480  
 Glu Pro Gln Val Tyr Tyr Pro Glu  
 485

<210> 5288

<211> 1016

<212> PRT

<213> B.fragilis

<400> 5288

Asn Met Thr Ile Arg Leu Asn Lys Val Thr Arg Asp Leu Asn Val Gly  
 1 5 10 15  
 Ile Ala Thr Val Val Glu Phe Leu Gln Lys Lys Gly Tyr Thr Val Glu  
 20 25 30  
 Ala Asn Pro Asn Thr Lys Ile Thr Glu Glu Gln Tyr Ala Met Leu Val  
 35 40 45  
 Lys Glu Phe Ser Thr Asp Lys Asn Leu Arg Leu Glu Ser Glu Arg Phe  
 50 55 60  
 Ile Gln Glu Arg Gln Asn Lys Asp Arg Asn Lys Ala Ser Val Ser Ile  
 65 70 75 80  
 Asp Gly Tyr Asp Lys Lys Glu Pro Glu Lys Thr Val Ala Asp Asp Val  
 85 90 95  
 Ile Lys Thr Val Ile Pro Glu Asp Val Arg Pro Lys Phe Lys Pro Val  
 100 105 110  
 Gly Lys Ile Asp Leu Asp Lys Leu Asn Arg Lys Val Glu Lys Glu Pro  
 115 120 125  
 Met Lys Glu Glu Pro Lys Pro Gln Pro Val Ala Ala Glu Glu Lys Lys  
 130 135 140  
 Val Ala Glu Glu Val Lys Pro Val Val Ile Glu Val Lys Lys Glu Glu  
 145 150 155 160  
 Val Thr Val Thr Pro Ala Thr Ser Glu Pro Lys Pro Val Lys Glu Glu  
 165 170 175  
 Pro Lys Pro Val Val Glu Lys Pro Val Glu Thr Glu Lys Lys Val  
 180 185 190  
 Val Glu Glu Val Lys Lys Glu Glu Pro Lys Val Val Val Ser Pro Glu  
 195 200 205  
 Lys Thr Glu Lys Lys Glu Glu Lys Pro Val Ala Glu Ala Pro Val Thr  
 210 215 220  
 Pro Val Glu Lys Glu Glu Glu Gly Val Phe Lys Ile Arg Pro Thr Glu  
 225 230 235 240  
 Phe Val Ser Lys Ile Asn Val Ile Gly Gln Ile Asp Leu Ala Ala Leu  
 245 250 255  
 Asn Gln Ser Thr Arg Pro Lys Lys Lys Ser Lys Glu Glu Lys Arg Lys  
 260 265 270  
 Glu Arg Glu Glu Lys Glu Lys Leu Arg Gln Asp Gln Lys Lys Gln Met  
 275 280 285  
 Lys Glu Ala Ile Ile Lys Glu Ile Arg Lys Glu Asp Ser Lys Gln Ala  
 290 295 300  
 Lys Val Val Gly Lys Glu Asn Leu Asp Pro Asn Gly Lys Lys Lys Arg  
 305 310 315 320  
 Asn Arg Ile Asn Asn Asn Lys Glu Lys Val Asp Val Asn Asn Val Ala  
 325 330 335  
 Ser Asn Phe Ala His Pro Thr Pro Asn Ser Glu Arg Thr Asn Asn Asn

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			340					345				350			
Arg	Gly	Gly	Asn	Gln	Gln	Gly	Gly	Gly	Gln	Asn	Arg	Asn	Arg	Asn	
		355					360				365				
Asn	Asn	Asn	Lys	Asp	Arg	Phe	Lys	Lys	Pro	Val	Val	Lys	Gln	Glu	Val
		370					375				380				
Ser	Glu	Glu	Asp	Val	Ala	Lys	Gln	Val	Lys	Glu	Thr	Leu	Ala	Arg	Leu
385					390					395					400
Thr	Ser	Lys	Gly	Lys	Asn	Lys	Gly	Ala	Lys	Tyr	Arg	Lys	Glu	Lys	Arg
				405					410					415	
Asp	Met	Ala	Ser	Asn	Arg	Met	Gln	Glu	Leu	Glu	Asp	Gln	Glu	Met	Ala
		420						425				430			
Glu	Ser	Lys	Val	Leu	Lys	Leu	Thr	Glu	Phe	Val	Thr	Ala	Asn	Glu	Leu
		435					440					445			
Ala	Ser	Met	Met	Asn	Val	Ser	Val	Asn	Gln	Val	Ile	Gly	Thr	Cys	Met
		450				455					460				
Ser	Ile	Gly	Met	Met	Val	Ser	Ile	Asn	Gln	Arg	Leu	Asp	Ala	Glu	Thr
465					470					475					480
Ile	Asn	Leu	Val	Ala	Glu	Glu	Phe	Gly	Phe	Lys	Thr	Glu	Tyr	Val	Ser
				485					490					495	
Ala	Glu	Val	Ala	Gln	Ala	Ile	Val	Glu	Glu	Glu	Asp	Ala	Pro	Glu	Asp
		500						505				510			
Leu	Glu	His	Arg	Ala	Pro	Ile	Val	Thr	Val	Met	Gly	His	Val	Asp	His
		515					520					525			
Gly	Lys	Thr	Ser	Leu	Leu	Asp	Tyr	Ile	Arg	Lys	Ala	Asn	Val	Ile	Ala
	530					535					540				
Gly	Glu	Ala	Gly	Gly	Ile	Thr	Gln	His	Ile	Gly	Ala	Tyr	His	Val	Thr
545					550					555					560
Leu	Glu	Asp	Gly	Arg	Lys	Ile	Thr	Phe	Leu	Asp	Thr	Pro	Gly	His	Glu
				565				570						575	
Ala	Phe	Thr	Ala	Met	Arg	Ala	Arg	Gly	Ala	Lys	Val	Thr	Asp	Ile	Ala
			580					585				590			
Ile	Ile	Ile	Val	Ala	Ala	Asp	Asp	Asp	Val	Met	Pro	Gln	Thr	Lys	Glu
		595				600					605				
Ala	Ile	Asn	His	Ala	Ala	Ala	Gly	Val	Pro	Ile	Val	Phe	Ala	Ile	
	610					615				620					
Asn	Lys	Ile	Asp	Lys	Pro	His	Ala	Asn	Pro	Glu	Lys	Ile	Lys	Glu	Thr
625					630				635						640
Leu	Ala	Gln	Met	Asn	Tyr	Leu	Val	Glu	Glu	Trp	Gly	Gly	Lys	Tyr	Gln
				645				650						655	
Ser	Gln	Asp	Ile	Ser	Ala	Lys	Lys	Gly	Leu	Gly	Val	Pro	Glu	Leu	Met
			660					665				670			
Glu	Lys	Val	Leu	Leu	Glu	Ala	Glu	Met	Leu	Asp	Leu	Lys	Ala	Asn	Pro
		675					680				685				
Asn	Arg	Asn	Ala	Thr	Gly	Ser	Ile	Ile	Glu	Ser	Thr	Leu	Asp	Lys	Gly
	690				695					700					
Arg	Gly	Tyr	Val	Ala	Thr	Val	Leu	Val	Ser	Asn	Gly	Thr	Leu	Lys	Val
705					710				715						720
Gly	Asp	Ile	Val	Leu	Ala	Gly	Thr	Ser	Tyr	Gly	Arg	Val	Lys	Ala	Met
				725				730						735	
Phe	Asn	Glu	Arg	Asn	Gln	Arg	Val	Ala	Gln	Ala	Gly	Pro	Ser	Glu	Pro
		740					745				750				
Val	Leu	Ile	Leu	Gly	Leu	Asn	Gly	Ala	Pro	Ala	Ala	Gly	Asp	Thr	Phe
		755					760				765				
His	Val	Ile	Glu	Thr	Asp	Gln	Glu	Ala	Arg	Glu	Ile	Ala	Asn	Lys	Arg
	770				775					780					
Glu	Gln	Leu	Gln	Arg	Glu	Gln	Gly	Leu	Arg	Thr	Gln	Lys	Leu	Leu	Thr
785				790				795							800
Leu	Asp	Glu	Val	Gly	Arg	Arg	Ile	Ala	Leu	Gly	Asn	Phe	Gln	Glu	Leu
				805				810						815	

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Asn Val Ile Val Lys Gly Asp Val Asp Gly Ser Ile Glu Ala Leu Ser
      820      825      830
Asp Ser Leu Ile Lys Leu Ser Thr Glu Gln Ile Gln Val Asn Val Ile
      835      840      845
His Lys Ala Val Gly Gln Ile Ser Glu Ser Asp Val Thr Leu Ala Ala
      850      855      860
Ala Ser Asp Ala Ile Ile Ile Gly Phe Gln Val Arg Pro Ser Ala Ser
      865      870      875      880
Ala Arg Lys Phe Ala Glu Gln Glu Gly Val Asp Ile Arg Leu Tyr Ser
      885      890      895
Val Ile Tyr Ala Ala Ile Glu Glu Val Lys Ala Ala Met Glu Gly Met
      900      905      910
Leu Ala Pro Glu Val Lys Glu Val Val Thr Ala Thr Ile Glu Val Arg
      915      920      925
Glu Val Phe His Ile Thr Lys Val Gly Thr Val Ala Gly Ala Val Val
      930      935      940
Lys Glu Gly Lys Val Lys Arg Ser Asp Lys Ala Arg Leu Ile Arg Asp
      945      950      955      960
Gly Ile Val Ile Phe Ser Gly Ser Ile Asn Ala Leu Lys Arg Phe Lys
      965      970      975
Asp Asp Val Lys Glu Val Gly Thr Asn Phe Glu Cys Gly Ile Ser Leu
      980      985      990
Val Asn Tyr Asn Asp Leu Lys Val Gly Asp Met Ile Glu Thr Tyr Glu
      995      1000      1005
Glu Val Glu Val Lys Gln Thr Leu
      1010      1015

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<210> 5289

<211> 416

<212> PRT

<213> B.fragilis

<400> 5289

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Val Pro Gly Met Phe Tyr Leu Gln Ile Ile Ser Asp Lys Met Asn Ile
1      5      10      15
His Lys Ile Arg Glu Asp Phe Pro Ile Leu Ser Arg Thr Val Tyr Gly
      20      25      30
Lys Pro Leu Val Tyr Leu Asp Asn Gly Ala Thr Thr Gln Lys Pro Arg
      35      40      45
Leu Val Ile Asp Ser Ile Val Asp Glu Tyr Tyr Ser Val Asn Ala Asn
      50      55      60
Val His Arg Gly Val His Phe Leu Ser Gln Gln Ala Thr Glu Leu His
      65      70      75      80
Glu Ala Ser Arg Glu Thr Val Arg Gln Phe Ile Asn Ala Arg Ser Thr
      85      90      95
Arg Glu Val Ile Phe Thr Arg Gly Thr Thr Glu Ser Ile Asn Leu Ile
      100      105      110
Val Ser Ser Phe Gly Glu Glu Phe Met Gln Glu Gly Asp Glu Val Ile
      115      120      125
Val Ser Val Met Glu His His Ser Asn Ile Val Pro Trp Gln Leu Leu
      130      135      140
Ala Ala Arg Lys Gly Ile Ala Ile Lys Val Ile Pro Met Asn Asp Lys
      145      150      155      160
Gly Glu Leu Leu Leu Glu Glu Tyr Glu Asn Leu Phe Ser Glu Arg Thr
      165      170      175
Lys Ile Val Ser Val Ala Gln Val Ser Asn Val Leu Gly Thr Ile Asn
      180      185      190
Pro Val Lys Glu Met Ile Ala Thr Ala His Ala His Gly Val Pro Val
      195      200      205

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Met Ile Asp Gly Ala Gln Ser Ile Pro His Met Lys Val Asp Val Gln
 210                215                220
Asp Leu Asp Ala Asp Phe Val Phe Ser Gly His Lys Ile Tyr Gly
225                230                235                240
Pro Thr Gly Ile Gly Val Leu Tyr Gly Lys Glu Asp Trp Leu Glu Arg
                245                250                255
Leu Pro Pro Tyr Gln Gly Gly Gly Glu Met Ile Gln Ser Val Ser Phe
                260                265                270
Glu Lys Thr Val Phe Gly Glu Leu Pro Phe Lys Phe Glu Ala Gly Thr
                275                280                285
Pro Asp Tyr Ile Ala Thr Thr Gly Leu Ala Lys Ala Leu Asp Tyr Val
                290                295                300
Thr Gly Ile Gly Leu Asp Pro Ile Ala Leu His Glu His Glu Leu Thr
305                310                315                320
Val Tyr Ala Met Gln Arg Leu Lys Glu Ile Pro Asn Met Arg Ile Phe
                325                330                335
Gly Glu Ala Glu His Lys Ser Ser Val Ile Ser Phe Leu Val Gly Asp
                340                345                350
Ile His His Leu Asp Leu Gly Thr Leu Leu Asp Arg Leu Gly Ile Ala
                355                360                365
Val Arg Thr Gly His His Cys Ala Glu Pro Leu Met Arg Arg Leu Gly
                370                375                380
Ile Glu Gly Thr Val Arg Ala Ser Phe Ala Val Tyr Asn Thr Lys Glu
385                390                395                400
Glu Val Asp Ala Leu Val Ala Gly Ile Glu Arg Val Ser Lys Met Phe
                405                410                415

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<210> 5290
<211> 67
<212> PRT
<213> B.fragilis

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<400> 5290
Ala Arg Phe Val Cys Thr Phe Ile Leu Arg Tyr Leu Asn Pro Gly Met
1          5          10          15
Leu Leu Lys Ile Leu Ala Ile Ala Gly Gly Ala Phe Thr Leu Gly Val
20          25          30
Ile Phe Leu Gln Asp Ile Trp Gly Leu Tyr Cys Leu Val Ala Val Ser
35          40          45
Ala Cys Met Ser Leu Met Phe Pro Thr Ile Tyr Gly His Cys Ser Ser
50          55          60
Trp Phe Gly
65

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<210> 5291
<211> 695
<212> PRT
<213> B.fragilis

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<400> 5291
Tyr Gln Lys Ser Asn Cys Met Asn Glu Arg Ile Asn Tyr Leu Lys Thr
1          5          10          15
Tyr Ile Leu Asp Lys Arg His His Ser Gln Arg Arg Thr Pro Ser Ser
20          25          30
Ile Gly Leu Asp Lys Leu Asn Thr Ile Tyr Ala Gln Gln Gly Leu Ser
35          40          45
Pro Val Glu Arg Thr Thr Ala Cys Phe Ala Ala Leu Met Asn Ala Glu
50          55          60
Leu Pro Val Ile Leu Pro Gly Glu Lys Ile Val Phe Thr Arg Thr Leu

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65					70					75				80	
Thr	Gln	Val	Pro	Asp	Ile	Tyr	Thr	Pro	Glu	Glu	Trp	Asn	Glu	Ile	Lys
				85					90					95	
Asn	Lys	Tyr	Tyr	Ile	His	Glu	Lys	Gly	Thr	Val	Cys	Asn	Ile	Ser	Pro
			100					105					110		
Asn	Tyr	Ala	Tyr	Thr	Ile	Gln	His	Gly	Leu	Glu	Ala	Arg	Lys	Gln	Glu
		115					120					125			
Ile	Arg	Lys	Arg	Gln	Glu	Asn	Pro	Ser	Leu	Asn	Glu	Arg	Glu	Arg	Val
	130					135					140				
Phe	Leu	Asn	Ser	Met	Tyr	Gln	Cys	Ile	Ile	Ser	Leu	Gln	Lys	Leu	Ile
145					150					155					160
Glu	Lys	Tyr	Glu	Gln	Tyr	Ala	Leu	Leu	Asn	Asn	Glu	Thr	Glu	Ile	Ala
				165					170					175	
His	Thr	Leu	His	Thr	Ile	Lys	Thr	Glu	Gly	Ala	Gln	Asn	Phe	Arg	Gln
		180						185					190		
Ala	Leu	Gln	Leu	Leu	Arg	Ile	Leu	His	Phe	Ser	Ile	Trp	Glu	Ala	Gly
	195						200					205			
Asn	Tyr	His	Asn	Thr	Leu	Gly	Arg	Phe	Asp	Gln	Tyr	Met	Tyr	Pro	Phe
210						215					220				
Tyr	Gln	Arg	Asp	Leu	Glu	Asn	Gly	Thr	Leu	Thr	Lys	Glu	Glu	Ala	Phe
225					230					235					240
Asp	Leu	Leu	Glu	Glu	Phe	Phe	Leu	Val	Cys	Asn	Lys	Asp	Ser	Asp	Leu
			245						250					255	
Tyr	Pro	Gly	Met	Gln	Gln	Gly	Asp	Asn	Gly	Gln	Ser	Leu	Val	Leu	Gly
		260					265						270		
Gly	Arg	Asp	Pro	Glu	Gly	Lys	Tyr	Leu	Phe	Asn	Asp	Leu	Ser	Arg	Met
		275					280					285			
Cys	Leu	Gln	Ala	Ser	Tyr	Glu	Leu	Lys	Leu	Ile	Asp	Pro	Lys	Ile	Asn
	290					295				300					
Ile	Arg	Val	Ala	Pro	Lys	Thr	Pro	Asp	Glu	Ile	Phe	Thr	Leu	Gly	Ser
305					310					315					320
Arg	Leu	Thr	Lys	Ile	Gly	Leu	Gly	Phe	Pro	Gln	Tyr	Ser	Asn	Asp	Asp
			325						330					335	
Ile	Ile	Ile	Pro	Gly	Leu	Ile	Arg	Lys	Gly	Tyr	Ser	Lys	Glu	Asp	Ala
		340						345					350		
Tyr	Asn	Tyr	Val	Val	Ala	Ala	Cys	Trp	Glu	Phe	Ile	Ile	Pro	Asn	Arg
	355						360					365			
Ala	Met	Asp	Ile	Pro	Asn	Ile	Asp	Ala	Val	Ser	Leu	Ile	Gly	Cys	Val
	370					375					380				
Asp	Arg	Cys	Leu	Glu	Lys	Leu	Asn	Thr	Cys	Ser	Asn	Tyr	Ser	Ser	Phe
385					390					395					400
Tyr	Thr	Leu	Val	Glu	Gln	Glu	Ile	Gln	Lys	Glu	Val	Asn	Ala	Ile	Cys
			405						410					415	
Glu	Lys	His	Arg	Asn	Leu	Tyr	Ile	Ile	Pro	Ser	Pro	Met	Met	Ser	Leu
		420					425						430		
Leu	Met	Asp	Gly	Thr	Ile	Glu	Arg	Ala	Lys	Asp	Ile	Ser	Glu	Gly	Ser
	435						440					445			
Tyr	Tyr	Asn	Asn	Tyr	Gly	Ile	His	Gly	Thr	Gly	Ile	Ala	Thr	Ala	Thr
450					455						460				
Asp	Thr	Leu	Ala	Ala	Leu	Lys	Lys	Tyr	Tyr	Phe	Glu	Glu	Gln	Ser	Leu
465					470					475					480
Asp	Tyr	Thr	Thr	Leu	Leu	Thr	Ala	Ile	Arg	Ser	Asn	Phe	Lys	Gly	Tyr
			485						490					495	
Glu	Glu	Leu	Gln	Lys	Lys	Leu	Arg	Glu	Glu	Ala	Pro	Lys	Met	Gly	Gln
			500					505					510		
Asp	Asn	Asp	Tyr	Ala	Asp	Leu	Ile	Ala	Lys	Asp	Leu	Leu	Asp	Ser	Phe
	515						520					525			
Asp	Arg	Ser	Leu	Ala	Asp	Lys	Arg	Asn	Glu	Arg	Gly	Gly	Val	Tyr	Arg
	530					535					540				

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Ala Gly Thr Gly Thr Ala Met Tyr Tyr Ile Phe His Ser Asn Gln Leu  
 545 550 555 560  
 Arg Ala Thr Pro Asp Gly Arg Asn Asp Gly Glu Met Ile Pro Ala Asn  
 565 570 575  
 Tyr Ser Pro Ser Leu Phe Leu Lys Gln Lys Gly Pro Ile Ser Val Ile  
 580 585 590  
 Lys Ser Phe Thr Lys Gln His Leu Asp Arg Val Val Asn Gly Gly Pro  
 595 600 605  
 Leu Thr Leu Glu Phe Asp Gln Ser Val Phe Ser Asn Asp Glu Thr Ile  
 610 615 620  
 Glu Lys Leu Gly Met Leu Val Lys Thr Tyr Ile Val Leu Gly Gly His  
 625 630 635 640  
 Gln Leu Gln Leu Asn Thr Val Ser Arg Glu Thr Leu Leu His Ala Arg  
 645 650 655  
 Lys His Pro Glu Gln His Lys Asn Leu Ile Val Arg Val Trp Gly Trp  
 660 665 670  
 Ser Gly Tyr Phe Val Glu Leu Asp Glu Cys Tyr Gln Asn His Val Ile  
 675 680 685  
 Asn Arg Ile Glu Phe Gly Leu  
 690 695

<210> 5292

<211> 694

<212> PRT

<213> B.fragilis

<400> 5292

Asn Gln Cys Thr Met Lys Thr Thr Lys His Leu Ser Val Ala Ala Val  
 1 5 10 15  
 Leu Thr Val Leu Met Gln Met Gly Cys Gln Ser His Thr Asp Asn Thr  
 20 25 30  
 Arg Gln Thr Leu His Leu Pro Glu Leu Asn Glu Val Arg Ile Glu Asp  
 35 40 45  
 Ala Phe Trp Ser Pro Lys Leu Asp Ile Trp Arg Lys Ile Thr Ala Asn  
 50 55 60  
 Asp Val Leu Asn Lys Phe Glu Gly Lys Tyr Thr Pro Phe Pro Gly Ser  
 65 70 75 80  
 Thr Asp Thr Arg Asn Ala Phe Arg Asn Phe Asp Arg Val Ala Glu Gly  
 85 90 95  
 Gln Arg Asp Ile Lys Gln His Asp Gly Pro Glu Trp Tyr Asp Gly Leu  
 100 105 110  
 Val Tyr Glu Ser Ile Arg Gly Ile Ala Tyr Phe Leu Ala Ser His Pro  
 115 120 125  
 Asn Lys Glu Leu Glu Lys Arg Ile Asp Gly Tyr Val Asp Arg Ile Tyr  
 130 135 140  
 Ala Ala Gln Gln Thr Glu Pro Thr Gly Tyr Ile Asn Thr His Thr Gln  
 145 150 155 160  
 Leu Met Glu Asn Asn His Arg Trp Gly Asp Asn Gly Gly Leu Leu Arg  
 165 170 175  
 Gly Gln His Asp Val Tyr Asn Ala Gly Met Leu Ile Glu Ala Gly Val  
 180 185 190  
 His Tyr Tyr Gln Ala Thr Gly Lys Thr Arg Leu Leu Glu Ile Ala Thr  
 195 200 205  
 Arg Phe Ala Asn Tyr Met Ala Asp Tyr Met Gly Pro Glu Pro Arg Lys  
 210 215 220  
 Asn Ile Val Pro Ala His Ser Gly Pro Glu Glu Ala Val Met Ala Leu  
 225 230 235 240  
 Tyr Trp Leu Tyr Lys Asn Glu Pro Glu Leu Lys Asp Lys Leu Ser Ile  
 245 250 255



Pro Val Arg Glu Ser Asp Tyr Tyr Asn Leu Ala Thr Phe Trp Ile Glu  
 260 265 270  
 Asn Arg Gly His His Cys Gly Phe Pro Leu Trp Gly Thr Trp Gly Tyr  
 275 280 285  
 Arg Lys Ser Glu Lys Trp Ile Lys Asp Ala Cys Tyr His Gln Ala Glu  
 290 295 300  
 Phe Gly Thr His Ser Arg Pro Ser Trp Gly Glu Tyr Ser Gln Asp Ser  
 305 310 315 320  
 Ile Pro Val Leu Glu Gln Lys Thr Ile Glu Gly His Ala Val Arg Ala  
 325 330 335  
 Thr Leu Met Ala Thr Gly Leu Thr Ala Ala Ala Leu Glu Asn Gln Ser  
 340 345 350  
 Pro Gln Tyr Ile Glu Thr Ala Lys Arg Leu Trp Glu Asn Met Ala Gly  
 355 360 365  
 Lys Arg Met Phe Ile Thr Gly Gly Val Gly Ala Ile His Glu Asp Glu  
 370 375 380  
 Lys Phe Gly Pro Asp Tyr Phe Leu Pro Thr Asp Ala Tyr Leu Glu Thr  
 385 390 395 400  
 Cys Ala Ala Val Gly Ala Gly Phe Phe Ser Gln Arg Met Asn Gln Leu  
 405 410 415  
 Thr Cys Asn Ala Arg Tyr Met Asp Glu Val Glu Arg Val Leu Tyr Asn  
 420 425 430  
 Asn Val Leu Thr Gly Val Ser Leu Ser Gly Asp Lys Tyr Thr Tyr Gln  
 435 440 445  
 Asn Pro Leu Asn Thr Asp Lys Pro Asp Arg Trp Glu Trp His Val Cys  
 450 455 460  
 Pro Cys Cys Pro Pro Met Phe Leu Lys Ile Met Ala Ala Met Pro Gly  
 465 470 475 480  
 Tyr Ile Tyr Ala Tyr Gln Gly Asp Asn Val Tyr Val Asn Leu Phe Ile  
 485 490 495  
 Gly Ser Glu Val Arg Ile Pro Val Gly Asp Asn Ser Val Arg Leu Lys  
 500 505 510  
 Gln Leu Thr Ser Tyr Pro Trp His Gly Ala Val Ser Ile Gln Val Asn  
 515 520 525  
 Pro Asp Lys Ala Ser Thr Phe Ser Met Lys Val Arg Ile Pro Gly Trp  
 530 535 540  
 Ala Gln Gly Thr Glu Asn Pro Tyr Asp Leu Tyr Gln Ser Asn Leu Lys  
 545 550 555 560  
 Ala Pro Val Lys Leu Lys Val Asn Gln Glu Asp Val Leu Leu Arg Ile  
 565 570 575  
 Val Asp Gly Tyr Ala Glu Ile Asn Arg Glu Trp Lys Lys Gly Asp His  
 580 585 590  
 Ile Glu Leu Glu Leu Pro Met Gln Pro Arg Leu Ile Thr Ala Asn Lys  
 595 600 605  
 Ala Val Glu Asn Leu Arg Gly Gln Val Ala Leu Ala Ser Gly Pro Ile  
 610 615 620  
 Ile Tyr Cys Phe Glu Asp Ala Asp Asn Pro Glu Leu Gln Thr Phe Lys  
 625 630 635 640  
 Leu Gln Ala Gln Thr Pro Leu Glu Leu Ser His Asp Ser Asn Leu Leu  
 645 650 655  
 Asn Gly Val Asn Ile Ile Lys Cys Gln Gly Asp Ile Pro Ala Lys Ala  
 660 665 670  
 Ile Pro Tyr Ala Val Ala Asn Arg Glu Glu Ser His Ser Tyr Lys  
 675 680 685  
 Val Trp Ile Pro Gln Lys  
 690

&lt;210&gt; 5293

&lt;211&gt; 260

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5293

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Lys Asn Ile Ala Ala Phe Gly Ile Ser Leu Arg Leu Lys Asp Ile Lys
1      5      10      15
Asp Leu Thr Met Gln Lys Phe Arg Leu Thr Met Leu Phe Ile Ile Cys
      20      25      30
Gly Asn Gly Phe Ala Tyr Ala Gln Thr Phe Asn Glu Thr Pro Ile Pro
      35      40      45
Ala Phe Thr Leu His Lys Glu Met Lys Thr Pro Gln Ile Phe Lys Leu
      50      55      60
Pro Glu Ile Lys Asn Thr Leu Ser Glu Thr Asn Pro Ala Phe Asn Asn
65      70      75      80
Ser Met Pro Leu Val Lys Gln Tyr Glu Leu Arg Lys Lys Phe Ser Tyr
      85      90      95
Leu Asp Pro Val Phe Thr Gly Tyr Phe Asn Gln Gln Gln Tyr Arg Leu
      100     105     110
Phe Asn Ser Arg Tyr Phe Gly Tyr Glu Leu Tyr Gly Ser Ser Tyr Ser
      115     120     125
Leu Arg Gly Val Gly Thr Gln Asn Met Ala Gly Gly Arg Leu Val Tyr
      130     135     140
Arg Leu Asn Arg Gln Leu Ala Ile Arg Ile Gly Gly Asn Ala Tyr Gln
145     150     155     160
Tyr Arg Ser Asn Gly Arg Met Phe Asn Asp Phe Thr Leu Asn Ala Asp
      165     170     175
Leu Thr Tyr Arg Leu Asn Asn Trp Leu Thr Ala Tyr Ile Tyr Gly Gln
      180     185     190
Tyr Arg Leu Asp Cys Asn Pro Asn Ser Gly Val Gln Gly Phe Pro Leu
      195     200     205
Ser Pro Gln Ser His Tyr Gly Ala Ser Phe Arg Ile Asn Leu Leu Glu
      210     215     220
Arg Lys Glu Tyr Gly Leu Asp Leu Asn Leu Gly Thr Asp Arg Ser Tyr
225     230     235     240
Asn Ala Ala Thr Arg Gln Trp Glu Asn Thr Tyr Lys Ile Gly Pro Thr
      245     250     255
Ile Arg Leu Lys
      260

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&lt;210&gt; 5294

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5294

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Asn Ile Met Tyr Ile Phe Ala Ile Val Asn Pro Asn Thr Met Lys Thr
1      5      10      15
Gly Thr Ile Phe Ser Val Glu Glu Phe Ala Ile His Asp Gly Pro Gly
      20      25      30
Ile Arg Thr Thr Ile Phe Leu Lys Gly Cys Pro Leu Arg Cys Ala Trp
      35      40      45
Cys His Asn Pro Glu Gly Ile Ser Pro Gln Pro Gln Tyr Met Ile Lys
      50      55      60
Lys Gly Val Lys Ser Ile Cys Gly Tyr Gln Ile Thr Val Glu Glu Leu
65      70      75      80
Val Thr Met Ile Glu Lys Asn Arg Ser Ile Tyr Thr Leu Asn Arg Gly
      85      90      95
Gly Val Thr Leu Thr Gly Gly Glu Pro Leu Phe Gln Pro Asp Phe Val
      100     105     110

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Ile Glu Leu Leu Arg Gln Leu Pro Asp Ile His Thr Ala Ile Glu Thr
    115                120                125
Ser Gly Tyr Ala Asn Thr His Ile Phe Asn Glu Val Thr Ser Leu Ala
    130                135                140
Asp Leu Ile Leu Phe Asp Ile Lys His Thr Asp Pro Glu Met His Arg
    145                150                155                160
Lys Tyr Thr Gly Val Asp Asn Thr Ile Ile Leu Glu Asn Leu Ala Leu
                165                170                175
Leu Cys Asn Ser Gly Arg Asp Phe Ile Ile Arg Ile Pro Leu Ile Pro
                180                185                190
Gly Val Asn Asp Thr Arg Glu Asn Met Ser Ala Ile Leu Glu Lys Ile
                195                200                205
Lys Asp Ala Arg Asn Leu Ile Arg Val Glu Ile Leu Arg Tyr His Arg
    210                215                220
Thr Ala Gly Ala Lys Tyr Ala Met Ile Gly Glu Thr Tyr His Pro Pro
    225                230                235                240
Phe Asp Thr Gly Lys Ala Pro Gln Ile Tyr Asn Val Phe Glu Glu Asn
                245                250                255
Asn Ile Lys Asn Leu Ile Val
    260

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<210> 5295
<211> 76
<212> PRT
<213> B.fragilis

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<400> 5295
Ala Tyr Ile His Ile Ile Leu Arg Ile Leu Ile Ala Gln Ile Thr Phe
1          5          10          15
Ile Gly Asn Val Tyr Gly Ser Lys Asp Asp Tyr Ser Thr Phe Thr Asn
    20          25          30
Asn Gly Cys Leu Arg Ser Leu Leu Arg Arg Asn Gly Pro Asn Lys Met
    35          40          45
Ala Lys Arg Ser Val Tyr Trp Leu Leu Pro Phe Leu Asn Ser Leu Gly
    50          55          60
Val Thr Pro Gln Lys Arg Leu Asn Val Leu Leu Lys
    65          70          75

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<210> 5296
<211> 235
<212> PRT
<213> B.fragilis

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<400> 5296
Thr Glu Lys His His Met Asn Thr Trp Phe Asp Ser Phe Trp Ser Leu
1          5          10          15
Leu Phe Pro Arg Cys Cys Val Val Cys Gly Ala Pro Leu Ser Lys Glu
    20          25          30
Glu Glu Cys Leu Cys Ile Arg Cys Asn Met Asn Leu Pro Arg Thr Gly
    35          40          45
Phe His Leu Arg Lys Asp Asn Pro Val Glu Cys Leu Phe Trp Gly Arg
    50          55          60
Ile Pro Val Leu Glu Arg Ala Ser Ser Phe Leu Phe Tyr Arg Lys Gly
    65          70          75          80
Ser Asp Phe Arg Arg Ile Leu His Leu Leu Lys Tyr Ser Gly Tyr Lys
                85          90          95
Glu Leu Gly Glu Val Met Gly Arg Tyr Met Ala Ala Glu Leu Ile Ser
    100          105          110
Cys Gly Phe Phe Asp His Val Asp Val Ile Val Pro Val Pro Leu His

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Lys Ala Pro Leu Tyr Val Leu Asp Met Ala Tyr Asp Gly Arg Ser Val  
 145 150 155 160  
 Phe Ile Ala Ser Asp Ser Gly Leu Tyr Val Tyr Asn Lys Thr Glu Gln  
 165 170 175  
 Ser Met Pro Leu Leu His Lys Gly Leu Ile Val Lys Val Thr Leu Asp  
 180 185 190  
 Ile Asn Gly Asn Val Trp Ala Val Ser Pro Asn Thr Ile Tyr Cys Phe  
 195 200 205  
 Arg Pro Asn Gly Gln Met Thr Arg Lys Ile Thr Ala Thr Glu Val Ser  
 210 215 220  
 Pro Asp Tyr Pro Val Glu Phe Thr Ser Ile Tyr Lys Asp Ser Gln Gly  
 225 230 235 240  
 Thr Leu Trp Leu Gly Thr Thr Glu Asn Gly Leu Tyr Arg Tyr Asn Lys  
 245 250 255  
 Asn Tyr Asn Gln Phe Val Ser Val Glu Phe Ala Ser Gln Asp Arg Lys  
 260 265 270  
 Asp Met Arg Tyr Ile Arg Cys Ile Gln Glu Asp Met Arg Gly Asn Leu  
 275 280 285  
 Trp Ile Gly Thr Glu Asn Gly Leu Phe Ile Tyr Asp Tyr Thr Asp Asn  
 290 295 300  
 Ser Tyr Ile Gln Tyr Arg Gln His Ala Lys Asp Val Gln Ser Gly Leu  
 305 310 315 320  
 Thr Asp Asn Ala Ile Tyr Thr Ile Tyr Lys Ser Arg Gly Asp Ile Met  
 325 330 335  
 Trp Ile Gly Thr Phe Phe Gly Gly Val Ser Tyr Thr Ser Leu Thr Glu  
 340 345 350  
 Asn Asn Phe His Tyr Leu Ile Ala Asp Asn Gly Lys Gln Tyr Leu Lys  
 355 360 365  
 Gly Lys Ala Ile Ser Asn Ile Ile Lys Asp Lys Asn Gly Ala Leu Trp  
 370 375 380  
 Phe Ala Ser Glu Asp His Gly Ile Ser Ile Leu Tyr Pro Asp Gly His  
 385 390 395 400  
 Ile Arg Tyr Leu Asn Lys Ser Thr His Pro Ser Leu Asn Gly Asp Asn  
 405 410 415  
 Val His Ala Leu Ala Glu Asp His Ser Gly Asn Ile Trp Ile Gly Asn  
 420 425 430  
 Phe Ile Asp Gly Leu Gln Lys Val Asp Leu Ala Lys Gly Tyr Ile Arg  
 435 440 445  
 Ser Tyr Lys Asn Ile Ala Gly Gly His Ala Gly Leu Ser Asn Asn Ser  
 450 455 460  
 Ile Tyr Lys Leu Tyr Val His Asn Pro Asp Thr Met Phe Ile Gly Thr  
 465 470 475 480  
 Ser Gln Gly Val Asn Ile Tyr His Phe Arg Thr Asp Ser Phe Thr Pro  
 485 490 495  
 Phe Leu Pro Asp Val Phe Arg Leu Ile Arg Ile Asp Asp Ile Thr Arg  
 500 505 510  
 Asp Leu Lys Gly Asn Ile Trp Phe Ser Thr His Phe Asn Gly Ile Phe  
 515 520 525  
 Arg Tyr His Ile Pro Thr His Ser Ile His Arg Tyr Gln Lys Gly Val  
 530 535 540  
 Thr Gly Cys Lys Thr Met Thr Ser Asp Asn Ile Tyr Cys Ser Phe Val  
 545 550 555 560  
 Asp Ser Lys Gly Glu Val Trp Phe Gly Thr Ser Asn Gly Gly Leu Met  
 565 570 575  
 Lys Tyr Asn Ala Arg Ala Asp Ser Ile Gln Ala Phe Gly Lys Glu Asn  
 580 585 590  
 Glu Leu Arg Gln Arg Asp Ile Tyr Ser Ile Gln Glu Asp Ser Phe Gly  
 595 600 605  
 Tyr Leu Trp Met Ser Thr Asp Asn Gly Ile Phe Ser Phe Asn Pro Glu

610	615	620
Ser Arg Ser Phe Ala His Tyr Lys Val Ser Asp Asn Leu Val Ser Asn		
625	630	635
Gln Phe Asn Ala Cys Pro Gly Tyr Lys Asp Pro Asp Gly Thr Leu Phe		640
	645	650
Phe Gly Ser Ile Asn Gly Val Cys Phe Phe Arg Pro Glu Gly Leu Asn		655
	660	665
His Asn Ser Pro Thr Asn Asp Ile His Leu Thr Phe Ser Asp Phe Arg		670
	675	680
Ile Phe Asn Lys His Val Gln Pro Ser Pro Asp Gly Ile Leu Gln Asn		685
	690	695
Asn Ile Asp Ser Thr Ser Ala Ile Arg Leu Pro His Gly Met Asn Thr		700
705	710	715
Leu Thr Phe Asp Phe Leu Val Ile Asn Tyr Asn Glu Asn Cys Gln Ser		720
	725	730
Gln Leu Ser Cys Glu Tyr Tyr Leu Glu Gly Met Glu Thr Glu Trp Asn		735
	740	745
Ala Thr Gln Gln Ile Pro Gln Ser Val Thr Tyr Thr Asn Leu Asp Pro		750
	755	760
Gly Thr Tyr Gln Phe His Val Arg Val Ile Gly Lys Asn Gly Val Val		765
	770	775
Phe Asp Arg Arg Lys Ile Thr Ile Asn Ile Arg Pro His Phe Leu Leu		780
785	790	795
Ser Gly Phe Met Ile Thr Ile Tyr Ser Leu Ile Gly Leu Leu Ile Ser		800
	805	810
Phe Ile Ile Val Arg Phe Tyr Gln Val Arg Met Arg Asp Lys Met Asp		815
	820	825
Ile Arg Ile Glu Arg Met Glu Lys Asn Asn Leu Arg Glu Leu Asn Lys		830
	835	840
His Lys Leu Asn Phe Phe Thr Tyr Ile Thr His Glu Phe Lys Thr Pro		845
	850	855
Leu Ser Ile Leu Met Ala Val Phe Glu Asp Ile Ser Ile Gly Arg Asn		860
865	870	875
Asn Thr Ile Thr Gly Glu Glu Met Lys Ile Ile Asn Arg Asn Ile Gln		880
	885	890
Arg Leu Gln Phe Leu Ile Asn Gln Leu Leu Glu Phe Arg Ser Val Glu		895
	900	905
Thr Asp His Ala Arg Ile Glu Tyr Val Lys Gly Asp Ile Met Thr Tyr		910
	915	920
Gly Arg Ser Ile Phe Glu Leu Phe Ile Pro Val Phe Arg Gln Lys Gln		925
	930	935
Ile Val Phe Gln Tyr Ala Thr Ser Ala Asp Ser Tyr Tyr Thr Val Phe		940
945	950	955
Asp Arg Asp Lys Ile Glu Lys Ile Ile Ser Asn Leu Leu Ser Asn Ala		960
	965	970
Phe Lys His Ser Asp Pro Gln Ser Glu Ile Asn Phe Arg Ile Asp Val		975
	980	985
Asp Lys Ala Ser Gly Gln Leu Ile Leu Ser Cys His Asn Ser Ser Ser		990
	995	1000
Tyr Ile His Pro Glu Gln Arg Glu Ala Val Met Gln Pro Phe His Lys		1005
	1010	1015
Thr Asp Ser Ser Asp Gln Lys Tyr Ser Asn Thr Gly Ile Gly Leu Ala		1020
1025	1030	1035
Leu Val Asn Gly Leu Val Gln Leu Leu Ser Gly Thr Val Glu Ile Glu		1040
	1045	1050
Ser His Gln Asn Ser Gly Thr Thr Phe Lys Val Lys Leu Pro Leu Val		1055
	1060	1065
Glu Asp Ser Lys Asp Met Ile Ala Pro Asp Glu Thr Leu Asp Ile Val		1070
	1075	1080
		1085

Asn Ser Pro Asp Val Val Ala Asp Thr Val Tyr Leu Leu Asn Asn Ser  
 1090 1095 1100  
 Gly Leu Lys Glu Asp Met Asn Ala Ala Asn Ala Glu Lys Lys Met Thr  
 1105 1110 1115 1120  
 Val Leu Leu Val Glu Asp Asn Pro Asp Ile Asn Asn Ile Leu Lys Ser  
 1125 1130 1135  
 Lys Leu Leu Arg Leu Tyr Lys Val Lys Thr Ala Tyr Asn Gly Gln Glu  
 1140 1145 1150  
 Ala Val Glu Leu Leu Lys Thr His Ile Ile Asp Ile Ile Ile Ser Asp  
 1155 1160 1165  
 Ile Met Met Pro Tyr Met Asp Gly Tyr Glu Leu Ser Lys Tyr Ile Lys  
 1170 1175 1180  
 Thr Ser Arg Glu Tyr Ser His Ile Pro Val Ile Leu Ile Thr Ser Gln  
 1185 1190 1195 1200  
 Pro Ser Lys Glu Asn Glu Leu Gln Gly Leu Ser Ala Gly Ala Asp Ala  
 1205 1210 1215  
 Tyr Ile Glu Lys Pro Phe Thr Phe Asp Glu Leu Asn Leu Arg Ile Thr  
 1220 1225 1230  
 Asn Leu Leu Lys Ala Lys Asn Asn Ile Arg Glu His Tyr His Asp Met  
 1235 1240 1245  
 Lys Ile Phe Gln Leu Asn Glu Leu Asn Asn Lys Asp Glu Glu Phe  
 1250 1255 1260  
 Ile Lys Ser Leu Thr Gln Phe Val Ile Glu His Ile Glu Asp Pro Glu  
 1265 1270 1275 1280  
 Leu Ser Val Asp Gln Leu Thr Thr His Met Asn Ile Ser Arg Thr Gln  
 1285 1290 1295  
 Leu Tyr Asn Lys Leu Lys Lys Leu Leu Asn Leu Ser Ala Thr Glu Phe  
 1300 1305 1310  
 Ile Asn Lys Ile Lys Ile Asp Val Ala Lys Val Lys Ile Ile Lys Thr  
 1315 1320 1325  
 Asn Leu Thr Ile Ala Glu Ile Ser Trp Gln Leu Gly Phe Asn Asn Pro  
 1330 1335 1340  
 Ser Tyr Phe Ser Lys Thr Phe Lys Arg Phe Cys Gly Val Thr Pro Asn  
 1345 1350 1355 1360  
 Glu Phe Lys Asn Gly Lys Ser Gln  
 1365

&lt;210&gt; 5299

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5299

His Trp Pro Trp Pro Asn Lys Cys Ser Asp Lys Tyr Glu Gly Ala Leu  
 1 5 10 15  
 Lys His Pro Arg Ile Tyr Leu Lys Ser Phe Asn Tyr Gln Ile Gly Cys  
 20 25 30  
 Gln His Phe Leu Asp Cys Leu Ser Lys Ser Leu Glu Met Gly Gly Cys  
 35 40 45  
 Arg Met Tyr Ile His Gly Thr Leu Val Phe Val Leu Phe Val Glu Asn  
 50 55 60  
 Glu Ser Tyr Gly Leu  
 65

&lt;210&gt; 5300

&lt;211&gt; 382

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5300

Lys Ile Gly Gly Ile Met Lys Ser Phe Thr Phe Cys Ile Leu Leu Ala  
 1 5 10 15  
 His Val Leu Ala Phe Pro Leu Phe Ala Gln Lys Asn Ala Ala Val  
 20 25 30  
 Thr Leu Asn Leu Ala Lys Ala Val Thr Gln Ser Pro Lys Thr Val Leu  
 35 40 45  
 Met Ser Glu Leu Ala Ser Asp Val Arg Tyr Phe Pro Leu Glu Thr Thr  
 50 55 60  
 Asp Asn Cys Leu Leu Gly Asn Glu Cys Ser Ile Ile Tyr Ala Gly Asn  
 65 70 75 80  
 Ser Ile Ile Ala Gly Asp Ala Gln Thr Arg Ser Phe Tyr Arg Phe Asp  
 85 90 95  
 Lys Asn Gly Lys Phe Met Asn Lys Ile Gly Arg Gln Gly Gln Gly Pro  
 100 105 110  
 Glu Glu Tyr Ala Val Gly Leu Leu Phe Phe Thr Asp Pro Asp Asn Gln  
 115 120 125  
 Lys Leu Tyr Val Gln Asp Phe Gln Asp Ile Ile Cys Tyr Gly Phe Asn  
 130 135 140  
 Gly Lys Phe Leu Arg Arg Ile Pro Ala Pro His Leu Asn Met Gly Thr  
 145 150 155 160  
 Gly Ala Val Asp Gly Gln Gly Ser Ile Leu Tyr Cys Asp Asn Asn Tyr  
 165 170 175  
 Phe Met Arg Lys Asp Asn Pro Gln Gln Leu Phe Leu Ile Asp Glu Asn  
 180 185 190  
 Gly Lys Lys Leu Lys Ile Trp Lys Gly Tyr Met Glu Pro Gly Lys Lys  
 195 200 205  
 Tyr Gly Val Asn Leu Ser Thr Arg Asp Val Met Tyr Arg Tyr Gly Gly  
 210 215 220  
 Asp Ile Tyr Phe Lys Pro Ala Leu Glu Asn Leu Ile Tyr Lys Ile Asp  
 225 230 235 240  
 Ala Asn Arg Lys Lys Thr Leu Ala Trp Lys Phe Asp Cys Ser Gly Lys  
 245 250 255  
 Asp Val Asp Val Ser Ala Asn Glu Ile Asp Pro Gly Lys Arg Phe Gln  
 260 265 270  
 Ser Ile Ala Val Gln Gln Val Phe Glu Ser Asp Arg Tyr Phe Phe Val  
 275 280 285  
 Leu Tyr Val Leu Lys Asn Glu Ser Phe Val Gly Leu Tyr Asp Lys Gln  
 290 295 300  
 Lys Lys Ser Phe Ser Asn Val Ile Ile Lys Asp Asp Leu Ala Ala Gly  
 305 310 315 320  
 Phe Asp Phe Thr Pro Pro Gly Thr Gly Leu Gly Ser Gln Leu Ala Asn  
 325 330 335  
 Ala Arg Met Val Gly Tyr Leu Ser Lys Gly Lys Arg Tyr Ser Lys Ala  
 340 345 350  
 Leu Leu Pro Glu Arg Lys Lys Glu Leu Asp Glu Leu Ile Asn Arg Leu  
 355 360 365  
 Asp Glu Glu Asp Asn Pro Val Met Val Val Val Thr Leu Lys  
 370 375 380

&lt;210&gt; 5301

&lt;211&gt; 418

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5301

Lys Lys Arg Gly Ile Ile Lys Gly Lys Val Val Glu Lys Gly Thr Tyr  
 1 5 10 15  
 Lys Val Met Leu Lys Ala Glu Asn Ala Leu Gly Thr Asp Thr Gln Glu



20					25					30					
Leu	Leu	Ile	Asn	Ile	Gly	Asp	Glu	Leu	Leu	Leu	Thr	Pro	Pro	Met	Gly
35					40					45					
Trp	Asn	Ser	Trp	Asn	Thr	Phe	Gly	Arg	His	Leu	Thr	Glu	Glu	Leu	Leu
50					55					60					
Leu	Gln	Thr	Ala	Asp	Ala	Met	Val	Glu	Asn	Gly	Met	Arg	Asp	Leu	Gly
65					70					75					
Tyr	Ala	Tyr	Ile	Asn	Ile	Asp	Asp	Phe	Trp	Gln	Leu	Pro	Glu	Arg	Gly
85					90					95					
Ala	Asp	Gly	His	Ile	Gln	Ile	Asp	Lys	Thr	Lys	Phe	Pro	Arg	Gly	Ile
100					105					110					
Lys	Tyr	Val	Ala	Asp	Tyr	Leu	His	Glu	Arg	Gly	Phe	Lys	Leu	Gly	Ile
115					120					125					
Tyr	Ser	Asp	Ala	Ala	Asp	Lys	Thr	Cys	Gly	Gly	Val	Cys	Gly	Ser	Tyr
130					135					140					
Gly	Tyr	Glu	Glu	Ile	Asp	Ala	Arg	Asp	Phe	Ala	Ser	Trp	Gly	Val	Asp
145					150					155					
Leu	Leu	Lys	Tyr	Asp	Tyr	Cys	Asn	Ala	Pro	Ala	Gly	Arg	Val	Glu	Ala
165					170					175					
Met	Glu	Arg	Tyr	Glu	Lys	Met	Gly	Arg	Ala	Leu	Arg	Ala	Thr	Asp	Arg
180					185					190					
Ser	Ile	Val	Phe	Ser	Ile	Cys	Glu	Trp	Gly	Gln	Arg	Glu	Pro	Trp	Lys
195					200					205					
Trp	Ala	Lys	Lys	Val	Gly	Gly	His	Leu	Trp	Arg	Val	Ser	Gly	Asp	Ile
210					215					220					
Gly	Asp	Leu	Trp	Asn	Arg	Ser	Thr	Asp	Glu	Lys	Gly	Gly	Leu	Arg	Gly
225					230					235					
Ile	Leu	Asn	Ile	Leu	Glu	Ile	Asn	Ala	Pro	Leu	Ser	Glu	Tyr	Ala	Arg
245					250					255					
Pro	Gly	Gly	Trp	Asn	Asp	Pro	Asp	Met	Leu	Val	Val	Gly	Ile	Gly	Gly
260					265					270					
Lys	Ser	Lys	Ser	Ile	Gly	Tyr	Glu	Ser	Glu	Gly	Cys	Thr	Asn	Glu	Gln
275					280					285					
Tyr	Gln	Ser	His	Phe	Ala	Leu	Trp	Cys	Met	Met	Ala	Ser	Pro	Leu	Leu
290					295					300					
Cys	Gly	Asn	Asp	Val	Arg	Gln	Met	Asn	Asp	Ser	Thr	Leu	Gln	Ile	Leu
305					310					315					
Leu	Asn	Lys	Asp	Leu	Ile	Ala	Ile	Asp	Gln	Asp	Pro	Leu	Gly	Ile	Gln
325					330					335					
Ala	Glu	Arg	Ala	Ile	Arg	Ala	Asp	His	Tyr	Asp	Val	Trp	Val	Lys	Pro
340					345					350					
Leu	Ser	Asp	Gly	Ser	Lys	Ala	Ile	Ala	Cys	Leu	Asn	Arg	Ile	Ser	Gly
355					360					365					
Pro	Val	Asp	Val	Glu	Leu	Asn	Val	Lys	Thr	Val	Glu	Gly	Leu	Ser	Leu
370					375					380					
Asp	Arg	Val	Tyr	Asp	Val	Ile	Glu	Gly	Ser	Leu	Val	Ala	Glu	Ala	Ser
385					390					395					
Thr	Gly	Trp	Val	Val	Lys	Leu	Ala	Pro	Gly	Glu	Cys	Lys	Val	Phe	Ile
405					410					415					

Cys Lys

&lt;210&gt; 5302

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5302

Ile Ile Ile Met Glu Lys Lys Thr Ile Val Ala Arg Val Glu Val Leu







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      100      105      110
Arg Ile Asn Lys Gly Lys Phe Thr Leu Asn Gly Gln Thr Tyr Gln Leu
      115      120      125
Pro Ile Asn Asp Thr Pro Asn Ser Leu His Gly Gly Phe Lys Gly Phe
      130      135      140
Asp Met Val Val Trp Asp Val Glu Gln Pro Asp Ser Gln Thr Leu Gln
145      150      155      160
Leu Thr Tyr Leu Ser Lys Asp Gly Glu Glu Gly Tyr Pro Gly Asn Leu
      165      170      175
Gln Val Ser Met Ser Tyr Lys Leu Thr Asp Lys Asn Glu Phe Ile Ile
      180      185      190
Thr His Gln Ala Gln Thr Asp Lys Glu Thr Val Ile Asn Leu Thr His
      195      200      205
His Ser Phe Phe Asn Leu His Gly Ala Gly Asn Lys Asp Ile Asn Asp
      210      215      220
His Ile Leu Met Ile Asn Ala Asp Lys Phe Thr Pro Val Asp Gln Ile
225      230      235      240
Leu Ile Pro Thr Gly Ile Leu Gln Asp Val Glu Gly Thr Pro Met Asp
      245      250      255
Phe Arg Arg Pro Thr Pro Ile Gly Lys Arg Val Asn Asp Ser Phe Glu
      260      265      270
Gln Leu Glu Phe Gly His Gly Tyr Asp His Asn Trp Val Leu Asn Arg
      275      280      285
Lys Thr Ser Asn Thr Pro Glu Leu Ala Ala Thr Val Tyr Glu Pro Ala
      290      295      300
Ser Gly Arg Tyr Leu Glu Val Trp Thr Thr Glu Pro Gly Leu Gln Phe
305      310      315      320
Tyr Gly Gly Asn Phe Phe Asp Gly Thr Met Thr Gly Lys His Glu Lys
      325      330      335
Lys Tyr Asn Tyr Arg Ala Ser Leu Ala Leu Glu Thr Gln His Tyr Pro
      340      345      350
Asp Ser Pro Asn Gln Pro Ala Phe Pro Ser Thr Thr Leu Leu Pro Gly
      355      360      365
Asp Thr Tyr Lys His Ile Cys Ile Tyr Lys Ile Asn Val Gln
      370      375      380

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&lt;210&gt; 5305

&lt;211&gt; 271

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5305

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Lys Ser Asn Met Glu Leu Asp Leu Gln Gln Leu Thr Thr Glu Val Cys
1      5      10      15
Arg Ile Ala Thr Glu Ala Gly Asn Phe Leu Arg Lys Glu Arg Arg Ser
      20      25      30
Phe Ser Arg Glu Arg Val Val Glu Lys His Ala His Asp Tyr Val Ser
      35      40      45
Tyr Val Asp Lys Glu Ser Glu Arg Leu Leu Val Ala Gln Leu Ser Ala
      50      55      60
Leu Leu Pro Glu Ala Gly Phe Ile Ala Glu Glu Gly Ser Ala Val Tyr
      65      70      75      80
Lys Asn Glu Pro Tyr Cys Trp Val Ile Asp Pro Leu Asp Gly Thr Thr
      85      90      95
Asn Tyr Ile His Asp Asn Ala Pro Tyr Cys Val Ser Ile Ala Leu Arg
      100      105      110
Ser Cys Thr Glu Leu Leu Leu Gly Val Val Tyr Glu Val Cys Arg Asp
      115      120      125
Glu Cys Phe Tyr Ala Trp Lys Gly Gly Lys Ala Trp Met Asn Gly Asp

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130		135		140
Glu Leu His Val Ser Lys Ile Glu Asn Ile Glu Glu Ala Phe Val Ile				
145		150		155
Thr Glu Leu Pro Tyr Asn His Arg Gln Tyr Lys Arg Thr Ala Glu Tyr				160
	165		170	175
Leu Leu Lys Gln Leu Tyr Gly Val Val Gly Gly Ile Arg Met Asn Gly				
	180		185	190
Ser Ala Ala Ser Ala Leu Cys Tyr Val Ala Ala Gly Arg Phe Asp Ala				
	195		200	205
Trp Ala Glu Ala Phe Ile Gly Lys Trp Asp Tyr Ser Ala Ala Ala Leu				
	210		215	220
Ile Val Leu Glu Ala Gly Gly Lys Val Thr Asp Phe Phe Gly Ser Glu				
225		230		235
Tyr Phe Ile Glu Gly His His Ile Ile Ala Thr Asn Gly Pro Leu His				240
	245		250	255
Pro Val Phe Gln Arg Leu Leu Lys Glu Met Pro Pro Leu Glu Met				
	260		265	270

<210> 5306  
 <211> 95  
 <212> PRT  
 <213> B.fragilis

<400> 5306
Gly Thr Ala Met Lys Lys Ile Leu Leu Ala Leu Leu Thr Ser Cys Ala
1 5 10 15
Leu Val Ser Cys Glu Gly Tyr Phe Asp Gln Leu Pro Lys Thr Glu Leu
20 25 30
Pro Ser Glu Thr Phe Tyr Thr Ser Tyr Asp Ala Ala Leu Arg Asn Val
35 40 45
Ala Ile Leu Tyr Ala Asn Ala Gly His Val Asn Asp Gly Ile Met Thr
50 55 60
Thr Asp Arg Phe Met Met Pro Ser Leu Met Asn Glu Gly Pro Phe Asp
65 70 75 80
Leu Thr Ser Thr Ser Val Phe Thr Thr Gly Leu Gln Gly Cys Thr
85 90 95

<210> 5307  
 <211> 443  
 <212> PRT  
 <213> B.fragilis

<400> 5307
Tyr Ile Cys Ile Met Lys Asn Thr Ala Lys Asn Phe Met Phe Tyr Val
1 5 10 15
Ala Phe Val Ala Ser Leu Gly Gly Leu Leu Phe Gly Phe Asp Thr Ala
20 25 30
Val Ile Ser Gly Ala Glu Lys Ser Ile Gln Val Val Tyr Asp Leu Ser
35 40 45
Asp Phe Ser His Gly Phe Thr Ile Ala Ile Ala Leu Ile Gly Thr Ile
50 55 60
Ile Gly Ala Phe Val Cys Ser Lys Pro Val Glu Lys His Gly Arg Leu
65 70 75 80
Lys Ala Leu Lys Ile Ile Ala Phe Leu Tyr Phe Val Ser Ala Val Gly
85 90 95
Ser Ala Ala Ile Ile Asp Trp Tyr Ser Phe Leu Phe Phe Arg Phe Ala
100 105 110
Gly Gly Leu Ala Val Gly Ala Ser Ser Val Val Gly Pro Met Tyr Ile
115 120 125

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Ala Glu Ile Ser Pro Ser Arg Trp Arg Gly Arg Phe Val Ala Phe Phe
130 135 140
Gln Phe Asn Ile Val Leu Gly Ile Val Leu Ala Tyr Phe Ser Asn Tyr
145 150 155 160
Trp Ile His Gly Ile Ala His Asp Trp Gln Trp Met Leu Gly Val Glu
165 170 175
Ala Ile Pro Ala Ile Ala Phe Ala Leu Leu Leu Tyr Thr Val Pro Glu
180 185 190
Ser Pro Arg Trp Leu Val Lys Gln Asp Arg Glu Ala Glu Ala Arg His
195 200 205
Val Ile Lys Lys Val Ser Asn Ala Asn Ile Glu Gln Glu Ile His Glu
210 215 220
Ile Lys Glu Ser Leu Val Thr Ile Gly Ala Ser Gly Glu Lys Leu Phe
225 230 235 240
Gln His Lys Tyr Arg Lys Pro Ile Leu Tyr Ala Phe Leu Ile Ala Thr
245 250 255
Phe Asn Gln Leu Ser Gly Ile Asn Ala Ile Leu Tyr Tyr Ala Pro Arg
260 265 270
Ile Phe Glu Met Ser Gly Val Phe Thr Asp Ser Ala Met Met Gln Ser
275 280 285
Ile Val Ile Gly Leu Thr Asn Leu Thr Phe Thr Met Ile Gly Met Ile
290 295 300
Leu Ile Asp Gln Val Gly Arg Lys Lys Leu Leu Tyr Ile Gly Ser Ile
305 310 315 320
Gly Met Thr Phe Ser Leu Ala Leu Val Ala Lys Gly Phe Tyr Gln Gly
325 330 335
Ala Phe Ser Gly Tyr Tyr Met Leu Ile Cys Leu Met Gly Phe Ile Ala
340 345 350
Phe Phe Ala Ile Ser Leu Gly Ala Val Ile Trp Val Leu Ile Ser Glu
355 360 365
Val Phe Pro Asn Asn Val Arg Ser Lys Gly Gln Val Leu Gly Ser Met
370 375 380
Thr His Trp Val Trp Ser Ala Leu Leu Ser Trp Met Phe Pro Val Phe
385 390 395 400
Ile Arg Thr Gly Gly Thr Phe Ile Phe Ser Phe Phe Ala Ile Met Met
405 410 415
Phe Leu Ser Phe Phe Ala Leu Arg Leu Pro Glu Thr Lys Asn Lys
420 425 430
Ser Leu Glu Gln Ile Gln Lys Glu Leu Thr Asn
435 440

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&lt;210&gt; 5308

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; B.fragilis .

&lt;400&gt; 5308

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Ala Ser Thr Ile Pro Ser Thr Ile Leu Asn Trp Lys Asn Ala Thr Lys
1 5 10 15
Arg Pro Arg Gln Arg Glu Gly Asp Ile Ser Ala Met Tyr Met Gly Pro
20 25 30
Thr Thr Asp Glu Ala Pro Thr Ala Lys Pro Pro Ala Lys Arg Lys Asn
35 40 45
Lys Lys Glu Tyr Gln Ser Met Met Ala Ala Leu Pro Thr Ala Glu Thr
50 55 60
Lys
65

```

&lt;210&gt; 5309

<211> 68  
 <212> PRT  
 <213> B.fragilis

<400> 5309

```

Ser Gln Arg Ser Leu Ser Gln Arg Tyr Cys Ile Phe Ser Asn Ala Thr
1           5           10           15
Asn Gln Ser Ile Phe Phe Ile Glu Asp Trp His Tyr Leu Leu Val Leu
           20           25           30
Phe Tyr Trp Lys Ser Glu Gly Ile Ser Ile Pro Phe Phe Asn Pro Ile
           35           40           45
Ala Ile Pro Asn Pro Ala Thr Pro Tyr Ser Asp Lys Gln Arg Met Lys
           50           55           60
Asp Asn Arg Ser
65

```

<210> 5310  
 <211> 79  
 <212> PRT  
 <213> B.fragilis

<400> 5310

```

Lys Asn Phe Pro Tyr Tyr Gly Trp Asp Ala Phe Ala Asn Asp Lys Ser
1           5           10           15
Lys Gln Asp Ala Ile Val Pro Leu Pro Met Ile Leu Pro Asp Phe Asp
           20           25           30
Ser Gln Glu Arg Cys Tyr Tyr Tyr Ser Ala Gln Pro Val Ile Ser Asp
           35           40           45
Val Cys Glu Ile Ser Arg Asp Tyr Phe Asn Lys Asp Phe Ser Lys Asn
           50           55           60
Tyr Lys Leu Glu Phe Lys Leu Lys Ile Val Asn Tyr Phe Phe Asn
65           70           75

```

<210> 5311  
 <211> 162  
 <212> PRT  
 <213> B.fragilis

<400> 5311

```

Ile Thr Met Leu Ser Leu Gln Ser Glu Ile Asp Ser Leu Cys Ala Val
1           5           10           15
Ser His Glu Leu Leu His Leu Gly Leu Asp Gly Glu Pro Ile Tyr Ser
           20           25           30
Asp Arg Phe Arg Gln Leu Asn Thr Asp Val Tyr His Arg Cys Glu His
           35           40           45
Leu Phe Gly Ser His Gly Arg Thr Leu Glu Glu Glu Ala Ser Leu Cys
           50           55           60
Ile Ala Leu Leu Thr Gly Tyr Asn Ala Thr Ile Tyr Asn His Gly Asp
65           70           75           80
Lys Glu Asp Lys Ile Gln Ser Val Leu Asn Arg Ser Trp Asp Leu Leu
           85           90           95
Asp Thr Leu Pro Val Ser Leu Leu Lys Cys Arg Leu Leu Val Ala Cys
           100          105          110
Tyr Ala Glu Val Phe Asp Glu Glu Leu Ala Ala Glu Ala His Ala Ile
           115          120          125
Ile Asp Gly Trp Lys Asp Arg Glu Leu Thr Arg Glu Glu Phe Glu Ile
           130          135          140
Val Glu His Leu Lys Ser Leu Glu Glu Asn Pro Tyr Pro Asn Thr Asp
145          150          155          160

```



Ile Glu

&lt;210&gt; 5312

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5312

```

Arg Asp Arg Pro Phe Asn Asn Thr Asn His His Asn Ser Asn Lys Ile
1      5      10      15
Met Ala Ala Thr Lys Ile Phe Asn Leu Trp Ala Lys Arg Ser Pro Glu
      20      25      30
Trp Glu Thr Lys Tyr Glu Asp Thr Leu Leu Lys Ala Phe Cys Asp Tyr
      35      40      45
Gly Lys Gly Ser Thr Ser Tyr Gln Glu Thr Arg Ala Lys Leu Phe Gly
      50      55      60
Ala Gly Tyr Glu Leu Tyr Ile Leu Ala Phe Phe Ile Gly Leu Tyr His
65      70      75      80
Gly Gln Thr Lys Asp Leu Val Ala Asp Lys Ala Lys Arg Lys Asp Phe
      85      90      95
Gly Trp Ala Ile Glu Asn Trp Gly Thr Ala Glu Ala Arg Gly Gly Arg
      100     105     110
Lys Gln Tyr Gly Gln Ile Arg Glu Tyr Met Phe Met Ala Leu Val Ala
      115     120     125
Arg Thr Gly Ile Asp Trp Ile Ala Leu Asp Lys Gly Asp Ile Thr Pro
      130     135     140
Arg Lys Val Val Asp Leu Leu Ile Asp Lys Met Glu Lys Tyr Ala Asn
145     150     155     160
Phe Gly Phe Asp Phe Met Gln Asp Lys Leu Glu Asp Asn Pro Asp Tyr
      165     170     175
Phe Tyr Lys Glu Thr Ala Phe Leu Gln Val Phe Leu Asn Phe Met Gln
      180     185     190
Pro Ser Thr Ser Glu Asn Ala Glu Glu Glu Glu Glu Ala Glu Ser Leu
      195     200     205
Asp

```

&lt;210&gt; 5313

&lt;211&gt; 200

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5313

```

Tyr Phe Cys Thr Leu Phe Ser Gln Glu Ile Asp Gln Glu Met Ile Glu
1      5      10      15
Asp Ile Lys Lys Ala Cys Gln Val Met Ser Glu Gly Gly Val Ile Leu
      20      25      30
Tyr Pro Thr Asp Thr Val Trp Gly Ile Gly Cys Asp Ala Thr Asn Glu
      35      40      45
Asp Ala Val Arg Arg Val Tyr Glu Ile Lys Arg Arg Ala Asp Ser Lys
      50      55      60
Ala Met Leu Val Leu Val Asp Ser Pro Val Lys Val Glu Phe Tyr Val
65      70      75      80
Gln Asp Val Pro Ser Val Ala Trp Asp Leu Ile Glu Val Ala Asp Lys
      85      90      95
Pro Leu Thr Ile Ile Tyr Ser Gly Ala Arg Asn Leu Ala Ser Asn Leu
      100     105     110
Leu Ala Glu Asp Gly Ser Val Gly Ile Arg Val Thr Asn Glu Ala Phe

```

115	120	125
Ser Arg Arg Leu Cys Gln Gln Phe Arg Lys Ala Ile Val Ser Thr Ser		
130	135	140
Ala Asn Val Ser Gly Gln Pro Gly Ala Ala Asn Phe Asn Glu Ile Ser		
145	150	155
Glu Glu Ile Lys Ser Ser Val Asp Tyr Ile Val Asn Phe Arg Gln Asp		
	165	170
Asp Met Ser Arg Pro Lys Pro Ser Ser Ile Ile Lys Leu Asp Lys Gly		
	180	185
Gly Val Ile Lys Ile Ile Arg Glu		190
	195	200

&lt;210&gt; 5314

&lt;211&gt; 640

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5314

Arg Tyr Gln Thr Asp Arg Val Thr Tyr Gln Glu Ile Leu Lys Gln Tyr	
1	5
Trp Gly Tyr Asp Ser Phe Arg Asp Leu Gln Glu Asp Ile Ile Thr Ser	
	20
Ile Gly Asn Gly Lys Asp Thr Leu Gly Leu Met Pro Thr Gly Gly Gly	
	35
Lys Ser Ile Thr Phe Gln Val Pro Ala Leu Ala Lys Glu Gly Leu Cys	
	50
Ile Val Ile Thr Pro Leu Ile Ala Leu Met Lys Asp Gln Val Gln Asn	
65	70
Leu Lys Lys Arg Gly Ile Lys Ala Ile Ala Ile Tyr Ser Gly Met Thr	
	85
Arg Gln Glu Ile Val Val Ala Leu Glu Asn Cys Ile Phe Gly Asp Tyr	
	100
Lys Phe Leu Tyr Ile Ser Pro Glu Arg Leu Asp Thr Glu Ile Phe Arg	
	115
Ala Lys Leu Arg Ser Met Lys Ile Ser Met Ile Thr Val Asp Glu Ser	
	130
His Cys Ile Ser Gln Trp Gly Tyr Asp Phe Arg Pro Ala Tyr Leu Lys	
145	150
Ile Ala Asp Ile Arg Asp Leu Val Pro Asp Ala Pro Val Leu Ala Leu	
	165
Thr Ala Thr Ala Thr Pro Glu Val Val Lys Asp Ile Gln Glu Arg Leu	
	180
Arg Phe Arg Glu Glu Asn Val Phe Arg Met Ser Phe Glu Arg Lys Asn	
	195
Leu Ala Tyr Ile Val Arg Pro Thr Asp Asn Lys Asn Gly Glu Leu Leu	
	210
His Ile Leu Asn Arg Ile Gln Gly Ser Ala Ile Val Tyr Val Arg Ser	
225	230
Arg Arg Lys Thr Lys Glu Thr Thr Glu Leu Leu Val Asn Glu Gly Ile	
	245
Thr Ala Asp Phe Tyr His Ala Gly Leu Asp Asn Ala Thr Lys Asp Leu	
	260
Arg Gln Lys Arg Trp Gln Asn Gly Glu Ser Arg Val Met Val Ala Thr	
	275
Asn Ala Phe Gly Met Gly Ile Asp Lys Pro Asp Val Arg Ile Val Ile	
	290
His Leu Asp Leu Pro Asp Ser Pro Glu Ala Tyr Phe Gln Glu Ala Gly	
305	310
Arg Ala Gly Arg Asp Gly Gln Lys Ala Tyr Ala Val Ile Leu Tyr Ala	





Pro Ile Glu

&lt;210&gt; 5316

&lt;211&gt; 400

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5316

Thr	Asn	Thr	Ala	Ile	Val	Met	Asn	Thr	Thr	Glu	Tyr	Leu	Gln	Thr	Trp
1				5					10					15	
Ser	Asp	Ser	Tyr	Lys	Asn	Asp	Met	Ile	Ser	Asn	Ile	Met	Pro	Phe	Trp
			20					25					30		
Met	Lys	Tyr	Gly	Trp	Asp	Arg	Lys	Asn	Gly	Gly	Val	Tyr	Thr	Cys	Val
			35				40					45			
Asp	Arg	Asp	Gly	Gln	Leu	Met	Asp	Thr	Thr	Lys	Ser	Val	Trp	Phe	Gln
			50			55					60				
Gly	Arg	Phe	Ala	Phe	Thr	Cys	Ser	Tyr	Ala	Tyr	Asn	His	Ile	Glu	Arg
65					70					75				80	
Asn	Thr	Glu	Trp	Leu	Ala	Ala	Ala	Lys	Ser	Thr	Leu	Asp	Phe	Ile	Glu
				85					90					95	
Ala	His	Cys	Phe	Asp	Thr	Asp	Gly	Arg	Met	Phe	Phe	Glu	Val	Thr	Glu
			100					105					110		
Thr	Gly	Leu	Pro	Ile	Arg	Lys	Arg	Arg	Tyr	Val	Phe	Ser	Glu	Thr	Phe
			115					120					125		
Ala	Ala	Ile	Ala	Met	Ser	Glu	Tyr	Ala	Ile	Ala	Ser	Gly	Asp	His	Ser
			130					135				140			
Tyr	Ala	Val	Lys	Ala	Leu	Lys	Leu	Phe	Asn	Asp	Ile	Arg	His	Phe	Leu
145					150					155				160	
Ser	Thr	Pro	Gly	Ile	Leu	Glu	Pro	Lys	Tyr	Cys	Glu	Arg	Val	Gln	Met
				165					170					175	
Lys	Gly	His	Ser	Ile	Ile	Met	Ile	Leu	Ile	Asn	Val	Ala	Ser	Arg	Ile
			180					185					190		
Arg	Ala	Ala	Ile	Asn	Asp	Pro	Val	Leu	Asp	Arg	Gln	Ile	Glu	Glu	Ser
			195				200					205			
Ile	Ala	Ile	Leu	Arg	Lys	Asp	Phe	Met	His	Pro	Glu	Phe	Lys	Ala	Leu
			210			215					220				
Leu	Glu	Thr	Val	Gly	Pro	Asn	Gly	Glu	Phe	Ile	Asp	Thr	Asn	Ala	Thr
					230					235				240	
Arg	Thr	Ile	Asn	Pro	Gly	His	Cys	Ile	Glu	Thr	Ser	Trp	Phe	Ile	Leu
			245						250					255	
Glu	Glu	Ala	Lys	Asn	Arg	Asn	Trp	Asp	Lys	Glu	Met	Val	Asp	Thr	Ala
			260					265					270		
Leu	Thr	Ile	Leu	Asp	Trp	Ser	Trp	Glu	Trp	Gly	Trp	Asp	Lys	Glu	Tyr
			275				280					285			
Gly	Gly	Ile	Ile	Asn	Phe	Arg	Asp	Cys	Arg	Asn	Leu	Pro	Ser	Gln	Asp
			290			295					300				
Tyr	Ala	His	Asp	Met	Lys	Phe	Trp	Trp	Pro	Gln	Thr	Glu	Ala	Ile	Ile
305					310					315				320	
Ala	Thr	Leu	Tyr	Ala	Tyr	Gln	Ala	Thr	Lys	Asn	Glu	Lys	Tyr	Leu	Ala
				325					330					335	
Met	His	Lys	Gln	Ile	Ser	Asp	Trp	Thr	Tyr	Ala	His	Phe	Pro	Asp	Ala
			340					345					350		
Glu	Phe	Gly	Glu	Trp	Tyr	Gly	Tyr	Leu	His	Arg	Asp	Gly	Thr	Ile	Ser
			355				360					365			
Gln	Pro	Ala	Lys	Gly	Asn	Leu	Phe	Lys	Gly	Pro	Phe	His	Ile	Pro	Arg
			370			375					380				
Met	Met	Thr	Lys	Gly	Tyr	Ala	Leu	Cys	Gln	Glu	Leu	Leu	Ser	Glu	Lys
385					390					395					400

<210> 5317  
 <211> 85  
 <212> PRT  
 <213> B.fragilis

<400> 5317  
 Leu Val Phe Ala Thr Phe Ala Asn Cys Glu Lys Thr Leu Ser Phe Lys  
 1 5 10 15  
 Gly Trp Asn Cys Gln Phe Met Ile Gln Phe Tyr Asn Glu Tyr Asn Gln  
 20 25 30  
 Gln Phe Thr Asn Thr Lys Gln Pro Val Ser Tyr Leu Asp Asp Val Ser  
 35 40 45  
 Leu Tyr Leu Pro Val Met His Leu Ser Trp Ser His Asn Ile Val Leu  
 50 55 60  
 Met Gln Lys Val Lys Asp Leu Lys Ala Arg Asn Trp Tyr Met Ile Gln  
 65 70 75 80  
 Ser Leu Lys Asn Gly  
 85

<210> 5318  
 <211> 439  
 <212> PRT  
 <213> B.fragilis

<400> 5318  
 Ile Ser Glu Ala Met Asn Thr Lys Tyr Trp Glu Glu Glu Ile Glu Thr  
 1 5 10 15  
 Met Ser Arg Lys Lys Leu Gln Glu Leu Gln Leu Gln Arg Leu Lys Lys  
 20 25 30  
 Thr Ile Asn Ile Ala Ala Asn Ala Pro Tyr Tyr Lys Lys Val Phe Gln  
 35 40 45  
 Glu His Gly Ile Thr Pro Glu Ser Ile Gln Ser Leu Asp Asp Ile Arg  
 50 55 60  
 Lys Leu Pro Phe Thr Thr Lys Ala Asp Met Arg Ala Asn Tyr Pro Phe  
 65 70 75 80  
 Gly Leu Val Ala Gly Asn Met Lys Glu Asp Gly Val Arg Ile His Ser  
 85 90 95  
 Ser Ser Gly Thr Thr Gly Thr Pro Thr Val Ile Val His Ser Gln His  
 100 105 110  
 Asp Leu Asp Ser Trp Ala Asn Leu Val Ala Arg Cys Leu Tyr Cys Val  
 115 120 125  
 Gly Ile Arg Asn Thr Asp Val Phe Gln Asn Ser Ser Gly Tyr Gly Met  
 130 135 140  
 Phe Thr Gly Gly Leu Gly Phe Gln Tyr Gly Ala Glu Arg Leu Gly Ala  
 145 150 155 160  
 Leu Thr Val Pro Ala Ala Ala Gly Asn Ser Lys Arg Gln Ile Lys Phe  
 165 170 175  
 Ile Thr Asp Phe Lys Thr Thr Ala Leu His Ala Ile Pro Ser Tyr Ala  
 180 185 190  
 Ile Arg Leu Ala Glu Val Phe Gln Glu Glu Gly Ile Asp Pro Arg Ser  
 195 200 205  
 Thr Thr Leu Lys Thr Leu Val Ile Gly Ala Glu Pro His Thr Asp Glu  
 210 215 220  
 Gln Arg Lys Lys Ile Glu Arg Met Leu Gly Val Lys Ala Tyr Asn Ser  
 225 230 235 240  
 Phe Gly Met Thr Glu Met Asn Gly Pro Gly Val Ala Phe Glu Cys Thr  
 245 250 255  
 Glu Gln Asn Gly Met His Phe Trp Glu Asp Cys Tyr Tyr Val Glu Ile

260	265	270
Ile Asn Pro Glu Thr Gly Glu	Pro Val Pro Glu Arg Glu	Ile Gly Glu
275	280	285
Leu Val Leu Thr Thr Leu Asp	Arg Glu Met Met Pro Leu	Ile Arg Tyr
290	295	300
Arg Thr Arg Asp Leu Thr	Arg Ile Leu Pro Gly Asn	Cys Pro Cys Gly
305	310	315
Arg Thr His Ile Arg Ile Asp	Arg Ile Lys Gly Gly Ser	Asp Asp Met
325	330	335
Phe Ile Ile Lys Gly Val Asn	Ile Phe Pro Met Gln Val	Glu Lys Ile
340	345	350
Leu Val Gln Phe Pro Glu Leu	Gly Ser Asn Tyr Leu Ile	Thr Leu Glu
355	360	365
Thr Val Asn Asn Gln Asp Glu	Met Ile Val Glu Val Glu	Leu Ser Asp
370	375	380
Leu Ser Thr Asp Asn Tyr Ile	Glu Leu Glu Lys Ile Arg	Lys Asp Ile
385	390	395
Thr Arg Gln Leu Lys Asp Glu	Ile Leu Val Thr Pro Lys	Leu Lys Leu
405	410	415
Val Lys Lys Gly Ser Leu Pro	Gln Ser Glu Gly Lys Ala	Val Arg Val
420	425	430
Lys Asp Leu Arg Asn Asn Lys		
435		

&lt;210&gt; 5319

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5319

Lys Thr Met Ala Ile Ala Tyr Asp Gly Ile Asn Tyr Phe Pro Val Gly	1	5	10	15
Val Asn Phe Met Glu Glu Asn Ala Met Glu Val Ile Glu Ala Lys Tyr	20	25	30	
Gly Ile Lys Gly Ser Ala Ile Val Leu Lys Leu Leu Cys Lys Ile Tyr	35	40	45	
Lys Glu Gly Tyr Phe Ile Arg Trp Asp Glu Glu Gln Cys Leu Ile Phe	50	55	60	
Ala Asn Lys Ala Gly Arg Glu Val Gln Ala Ala Glu Val Gln Gly Ile	65	70	75	80
Ile Glu Ile Leu Phe Ile Lys Gly Ile Leu Asp Arg Asn Ser Tyr Leu	85	90	95	
Ala Asn Gly Ile Leu Thr Ser Ala Asn Ile Gln Lys Ile Trp Met Glu	100	105	110	
Ala Thr Lys Arg Arg Lys Arg Asp Leu Lys Ala Leu Pro Tyr Leu Leu	115	120	125	
Val Asn Asp Leu Thr Gln Gln Glu Thr Glu Ala Pro Glu Gly Glu Asn	130	135	140	
Val Thr Ile Ser Pro Gly Asn Val Val His Asp Val Ala Val Asn Ala	145	150	155	160
Lys Asn Ala Cys Asn Ser Gly Gln Ser Lys Val Lys Glu Lys Lys Ala	165	170	175	
Glu Glu Asn Lys Glu Leu Pro Pro Ser Ala Pro Pro Lys Gly Lys Glu	180	185	190	
Lys Glu Trp Glu Glu Val Ser Ala Pro Leu Pro Ile Pro Gly Tyr Ala	195	200	205	
Phe Asn Thr Met Thr His Asn Tyr Pro Gly Leu Thr Asp Thr Leu Lys	210	215	220	
Arg Leu Gly Ile Thr Glu Val Gly Glu Val Asn Ala Ile Leu Arg Leu				

## 2160

225                    230                    235                    240  
 Ser Asp Tyr Gly Arg Lys Gly Thr Arg Val Trp Gln Leu Ile Ala Asn  
                          245                    250                    255  
 Thr Cys Trp Ser Asp Ile Gly Ala Lys Gly Arg Tyr Leu Ile Ala Ala  
                          260                    265                    270  
 Leu Asn Lys Ala Lys Arg Lys  
                          275

<210> 5320  
 <211> 211  
 <212> PRT  
 <213> B.fragilis

<400> 5320  
 Gly Arg Asn Phe Leu Ile Glu Ala Ile Asn Gln Asp Tyr Tyr His Val  
 1                    5                    10                    15  
 His Gly Ala Leu Ala His Asn Phe Asp Thr Thr Leu Pro Glu Ile Gln  
                          20                    25                    30  
 Ala Lys Gln Val Lys Glu Thr Leu Lys Asp Pro Tyr Ile Phe Asp Met  
                          35                    40                    45  
 Leu Thr Phe Thr Asp Glu Tyr Asp Glu Arg Asp Val Glu Leu Gly Leu  
                          50                    55                    60  
 Val Lys His Ile Glu Lys Phe Leu Val Glu Met Gly Ala Gly Phe Ala  
 65                    70                    75                    80  
 Phe Met Gly Arg Gln Tyr Tyr Ile Glu Val Ser Gly Asn Asp Phe Tyr  
                          85                    90                    95  
 Ile Asp Ile Leu Met Cys Asn Ala Phe Met His Arg Tyr Leu Val Val  
                          100                    105                    110  
 Glu Leu Lys Arg Gly Glu Phe Gln Pro Glu Tyr Ile Gly Lys Leu Asn  
                          115                    120                    125  
 Phe Tyr Cys Ser Val Val Asp Asp Ile Leu Cys Arg Ala Gly Asp Asn  
                          130                    135                    140  
 Gln Thr Ile Gly Leu Leu Leu Cys Gln Asn Lys Asn Arg Ile Met Ala  
 145                    150                    155                    160  
 Glu Tyr Ala Leu Arg Asp Val His Lys Pro Ile Gly Ile Ser Asp Tyr  
                          165                    170                    175  
 Glu Leu Gly Lys Ala Leu Pro Lys Asp Ile Lys Ser Gly Leu Pro Ser  
                          180                    185                    190  
 Ile Gly Glu Leu Glu Ser Lys Leu Ser Arg Glu Leu Glu Asp Asn Thr  
                          195                    200                    205  
 Gln Ser Leu  
 210

<210> 5321  
 <211> 640  
 <212> PRT  
 <213> B.fragilis

<400> 5321  
 Ile Tyr Phe Tyr Ile Thr Met Asn Ile Arg Phe Tyr Tyr Lys Tyr Leu  
 1                    5                    10                    15  
 Ser Ser Arg Val Ala Ser Lys Trp Leu Ile Leu Ala Val Asp Val Leu  
                          20                    25                    30  
 Leu Val Ile Phe Ser Met Phe Leu Ala Ser Leu Leu Gln Ile Gly Leu  
                          35                    40                    45  
 Ser Ala Leu Val Phe Glu Phe Ser Leu Trp Val Trp Thr Thr Leu Phe  
                          50                    55                    60  
 Cys Val Ile Phe Asn Val Cys Phe Phe His Leu Asn Arg Thr Tyr Val  
 65                    70                    75                    80



Gly	Val	Ile	Arg	Tyr	Ser	Ser	Phe	Ile	Asp	Ile	Ser	Arg	Ile	Phe	Ile
				85					90					95	
Ser	Leu	Thr	Leu	Gly	Tyr	Leu	Val	Thr	Cys	Val	Gly	Asn	Leu	Leu	Trp
			100					105					110		
Met	Gly	Trp	Ser	Gly	Arg	Glu	Val	Leu	Pro	Ile	Ser	Val	Ile	Leu	Thr
		115					120					125			
Ala	Tyr	Ile	Val	Asn	Phe	Ser	Leu	Met	Val	Cys	Leu	Arg	Ile	Leu	Val
	130					135					140				
Lys	Met	Ile	His	Glu	Leu	Met	Thr	Phe	Asp	Arg	Arg	His	Ser	Ile	Arg
145					150					155					160
Val	Phe	Val	Tyr	Gly	Ser	Lys	Gly	Ser	Gly	Ile	Asn	Ile	Ala	Lys	Ser
			165						170					175	
Leu	Arg	Val	Ser	Arg	Ser	Asn	His	Phe	Arg	Leu	Lys	Gly	Phe	Ile	Ser
		180						185					190		
Asp	Asp	Thr	Gly	Phe	Ile	Gly	Lys	Gln	Thr	Met	Gly	Cys	Arg	Val	Tyr
	195						200					205			
Ala	Asn	Asn	Glu	Ser	Leu	Phe	Asp	Ile	Leu	Glu	Glu	Glu	Arg	Ile	Glu
	210					215					220				
Ala	Ile	Ile	Val	Ser	Ser	Glu	Lys	Val	His	Arg	Leu	Glu	Thr	Ser	Gly
225					230					235					240
Met	Ile	Asp	Arg	Leu	Ile	Ala	Glu	Asp	Ile	Arg	Ile	Leu	Thr	Val	Pro
			245						250					255	
Pro	Phe	Asn	Asp	Leu	Gly	Lys	Glu	Gly	Met	Gln	Ile	Lys	Asp	Ile	Gln
		260						265					270		
Ile	Glu	Asp	Leu	Leu	Gln	Arg	Asp	Pro	Ile	His	Val	Asp	Ile	Arg	Lys
		275					280					285			
Ile	Ser	Ser	His	Ile	Glu	Gly	Lys	Arg	Ile	Met	Ile	Thr	Gly	Ala	Ala
	290					295					300				
Gly	Ser	Ile	Gly	Arg	Glu	Met	Val	Arg	Gln	Ile	Ala	Gly	Leu	Asn	Pro
305					310					315					320
Tyr	Lys	Leu	Ile	Leu	Val	Asp	Gln	Ala	Glu	Ser	Pro	Leu	His	Asn	Val
			325						330					335	
Gln	Leu	Glu	Leu	Leu	Asp	Asn	Trp	Arg	Asp	Ile	Asp	Ala	Lys	Met	Leu
		340						345				350			
Val	Ala	Asp	Val	Thr	Asn	Gln	Thr	Arg	Met	Glu	Ser	Ile	Phe	Lys	Asp
		355					360					365			
Tyr	Arg	Pro	Gln	Tyr	Val	Phe	His	Ala	Ala	Ala	Tyr	Lys	His	Val	Pro
	370					375					380				
Met	Met	Glu	Asp	Asn	Val	Ser	Glu	Ala	Ile	Gln	Val	Asn	Val	Leu	Gly
385				390						395					400
Thr	Arg	Ile	Met	Ala	Asp	Leu	Ala	Val	Lys	Tyr	Gly	Val	Glu	Lys	Phe
			405						410				415		
Val	Met	Val	Ser	Thr	Asp	Lys	Ala	Val	Asn	Pro	Thr	Asn	Val	Met	Gly
		420						425				430			
Cys	Ser	Lys	Arg	Leu	Ala	Glu	Ile	Tyr	Val	Gln	Ser	Leu	Ala	His	Gln
		435				440						445			
Leu	Ser	Lys	Tyr	Ala	Asn	Asp	Gly	Ala	Leu	Val	Lys	Phe	Ile	Thr	Thr
	450					455					460				
Arg	Phe	Gly	Asn	Val	Leu	Gly	Ser	Asn	Gly	Ser	Val	Ile	Pro	Arg	Phe
465				470						475					480
Lys	Gln	Gln	Ile	Glu	Lys	Gly	Gly	Pro	Val	Thr	Val	Thr	His	Pro	Gln
			485						490					495	
Val	Ile	Arg	Tyr	Phe	Met	Thr	Ile	Pro	Glu	Ala	Cys	Gln	Leu	Val	Leu
		500						505					510		
Glu	Ala	Gly	Ser	Met	Gly	Asn	Gly	Glu	Glu	Ile	Tyr	Ile	Phe	Asp	Met
		515					520					525			
Gly	Asn	Pro	Val	Lys	Ile	Val	Asp	Leu	Ala	Arg	Arg	Met	Ile	Tyr	Leu
	530					535					540				
Ser	Gly	Gln	Lys	Asn	Ile	Lys	Ile	Glu	Phe	Thr	Gly	Leu	Arg	His	Gly

545                      550                      555                      560  
 Glu Lys Leu Tyr Glu Glu Leu Leu Asn Val Lys Glu Phe Thr Cys Pro  
                                  565                      570                      575  
 Thr Tyr His Glu Lys Ile Met Ile Ala Lys Val Arg Glu Tyr Asp Tyr  
                                  580                      585                      590  
 Glu Glu Val Lys Gln Glu Ile Gln Lys Leu Ile Asp Leu Ser Tyr Thr  
                                  595                      600                      605  
 Ser Asp Thr Met Gly Ile Val Ala Ser Met Lys Lys Ile Val Pro Glu  
                                  610                      615                      620  
 Phe Val Ser Lys Asn Ser Glu Phe Glu Ile Leu Asp Lys Ala Ser Phe  
 625                      630                      635                      640

<210> 5322  
 <211> 101  
 <212> PRT  
 <213> B.fragilis

<400> 5322  
 Ile Ile Ser Leu Asn Asn Tyr Ile Ser Tyr Asp Val Val Ser Asn Ser  
 1                      5                      10                      15  
 Phe Trp Ile Lys Tyr Phe Asn Leu Tyr Ile Lys Asn Met Tyr Gln Tyr  
                                  20                      25                      30  
 Ala Phe Ser Pro Asn Lys Ser His Leu Ile Tyr Ser Thr Ile Ala Phe  
                                  35                      40                      45  
 Gly Asp Glu Pro Glu Ile Ile Ile Met Gly Lys Gly Gln Ile Thr Asn  
                                  50                      55                      60  
 Asp Asp Glu Ile Gln Met Tyr Pro Ser Ile Asn Asp Asn Gly Asp Val  
 65                      70                      75                      80  
 Glu Ile Leu Phe Ile Lys Gln Glu Ile Lys Lys Leu Ser Ile Leu Trp  
                                  85                      90                      95  
 Val Gly Cys Phe Arg  
                                  100

<210> 5323  
 <211> 705  
 <212> PRT  
 <213> B.fragilis

<400> 5323  
 Phe Thr Glu Tyr Ser Asn Leu Thr Gln Thr Asp Lys His Arg Leu Met  
 1                      5                      10                      15  
 Lys Arg Asn Val Ser Leu Leu Lys Tyr Ala Leu Leu Ile Ala Leu Cys  
                                  20                      25                      30  
 Cys Val Ala Cys Val Asn Glu Lys Asp Leu Tyr Glu Pro Ser Gly Glu  
                                  35                      40                      45  
 Asp Pro Gly Glu Thr Glu Glu Leu Asp Leu Ser Phe Lys Phe Ala Leu  
                                  50                      55                      60  
 Arg Ala Asp Lys Gln Ile His Ile Ser Val Thr Arg Ala Asp Gly Lys  
 65                      70                      75                      80  
 Ala Ala Glu Gly Ile Gly Val Gly Val Tyr Leu Gln Gln Pro Tyr Glu  
                                  85                      90                      95  
 Glu Asp Gly Ile Ile Ser Gly Lys Pro Leu Tyr Met Gly Tyr Thr Asp  
                                  100                      105                      110  
 Gly Asn Gly Gln Ile Asp Ala Thr Ile Ser Val Pro Ala Asn Ser Asp  
                                  115                      120                      125  
 Lys Leu Tyr Val Ala Ser Leu Thr Ala Gly Tyr Pro Gly Val Gln Glu  
                                  130                      135                      140  
 Met Asp Val Gln Pro Ser Met Thr Cys Asn Leu Thr Ala Thr Ala Phe  
 145                      150                      155                      160

Gln Ile Lys Thr Ala Thr Thr Arg Met Val Ala Thr Arg Ser Glu Thr  
 165 170 175  
 Gly Leu Asp Val Pro Val Gly Gln Lys Leu Ser Asn Leu Tyr Glu Leu  
 180 185 190  
 Tyr Ser Pro Tyr Thr Asp Ser Glu Ile Gly Lys Asp Gly Ile Pro Leu  
 195 200 205  
 Leu Asn Ala Ser Pro Leu Val Thr Lys Glu Glu Leu Ser Ala Lys Phe  
 210 215 220  
 Leu Asn Leu Met Asn Ser Trp Tyr Pro Glu Gln Lys Asn Val Gln Asp  
 225 230 235 240  
 Val Asp Leu Lys Lys Ser Ser Asp Leu Val Val Thr Asp Glu Leu Gly  
 245 250 255  
 Ala Glu Val Trp Ala Thr Tyr Val Gly Asp Gly Gly Phe Tyr Val Asn  
 260 265 270  
 Asn Ala Thr Val Tyr Asn Val Leu Ala Tyr Tyr Ser Tyr Gln Glu Gly  
 275 280 285  
 Glu Leu Gly Arg Arg Glu Asp Ile Gln Gly His Arg Met Thr Leu Leu  
 290 295 300  
 Leu Pro Asn Thr His Gln Gln Lys Cys Pro Ser Gly Leu Lys Val Gln  
 305 310 315 320  
 Leu Leu Tyr Trp Asp Gly Lys Gln Tyr Ser Lys Val Phe Pro Lys Gly  
 325 330 335  
 Ala Arg Ile Gly Phe Ala Val Ala Arg Asp Gly Leu Asn Ile Ala Asn  
 340 345 350  
 Val Asn Ala Ala Asn Gly Gly Val Asn Ser Lys Ser Ser Tyr Lys Phe  
 355 360 365  
 Lys Asn Gln Thr Phe Pro Asn Gly Asp Val Asn Gly Phe Tyr Tyr Ser  
 370 375 380  
 Thr Pro Ser Leu Asn Ala Thr Lys Arg Thr Asn Ala Val Ile Arg Asn  
 385 390 395 400  
 Val Pro Asp Tyr Asn Cys Cys Ile Met Gly Phe Asp Ile Arg Pro Tyr  
 405 410 415  
 Asp Asp Pro Lys Ala Asp Tyr Asp Phe Asn Asp Val Met Ile Lys Leu  
 420 425 430  
 Thr Ala Ser Pro Val Ser Ala Ile Lys Pro Glu Glu Asp Ile Pro Val  
 435 440 445  
 Ile Asp Glu Phe Thr Pro Ser Glu Ala Val Tyr Gly Thr Leu Ala Phe  
 450 455 460  
 Glu Asp Gln Trp Pro Lys Met Gly Asp Tyr Asp Phe Asn Asp Phe Val  
 465 470 475 480  
 Met Asn Tyr Ser Tyr Glu Leu Glu Lys Gly Asp Asn Asn Met Ile Thr  
 485 490 495  
 Ala Leu Lys Leu Thr Phe Thr Pro Ile Ala Lys Gly Ala Ala Ser Trp  
 500 505 510  
 Thr His Ile Gly Val Gly Ile Glu Leu Pro Leu Ser Ala Asp Asn Ile  
 515 520 525  
 Asp Lys Ala Lys Ser Glu Gly Ala Thr Leu Glu Glu Gly Asn Asp Arg  
 530 535 540  
 Ala Thr Phe Ile Val Trp Asn Asp Val Asn Thr Ala Phe Gly Thr Thr  
 545 550 555 560  
 Glu Gly Tyr Val Asn Thr Glu Gly Ala Val Val Gly Val Ser Ala Ile  
 565 570 575  
 Pro Val Glu Val Thr Val Arg Leu Lys Thr Pro Val Ser Ser Leu Leu  
 580 585 590  
 Thr Gln Lys Phe Asn Pro Phe Ile Phe Val Asn Ser Arg Gln Arg Glu  
 595 600 605  
 Ile His Leu Val Asp Tyr Lys Pro Thr Lys His Ala Asp Thr Ser Leu  
 610 615 620  
 Phe Gly Thr Glu Asn Asp Arg Ser Asp Pro Gly Ala Glu Val Tyr Tyr

625                      630                      635                      640  
 Arg Met Asp Asn Arg Tyr Pro Trp Ala Leu Asp Phe Pro Arg Lys Glu  
                                  645                      650                      655  
 Asp Ser Ser Pro Ala Trp Asn Tyr Pro Lys Glu Arg Val Ile Ile Thr  
                                  660                      665                      670  
 Lys Ala Tyr Pro Asn Tyr Glu Lys Trp Val Leu Asp Gln Ser Asn Leu  
                                  675                      680                      685  
 Ser Trp Phe Asp Ala Ser Val Ser Gly Asn Val Asn Arg Glu Phe Leu  
                                  690                      695                      700  
 Tyr  
 705

<210> 5324

<211> 461

<212> PRT

<213> B.fragilis

<400> 5324

Lys Gly Asp Phe Arg Gly Ser Leu Ser Phe Asn Ile Asp Gly Tyr Met  
 1                      5                      10                      15  
 Arg Val Met Ile Arg Ile Lys Arg Lys Ile Asp Ser Ser Pro Phe Leu  
                                  20                      25                      30  
 Lys Ser Val Val Val Leu Phe Ser Gly Asn Val Phe Ala Asn Leu Ile  
                                  35                      40                      45  
 Ser Leu Leu Ser Ile Pro Ile Leu Ser Arg Ile Tyr Ser Asp Ile Ala  
                                  50                      55                      60  
 Phe Gly Asp Tyr Ala Ile Val Ile Ser Thr Ala Thr Ile Val Asn Gly  
 65                      70                      75                      80  
 Ile Ser Thr Leu Gly Leu Thr Ser Ala Ile Met Ile Pro Val Glu Glu  
                                  85                      90                      95  
 Asn Lys Ala Lys Ser Val Phe Thr Thr Ala Trp Ile Ser His Ile Leu  
                                  100                      105                      110  
 Val Ser Thr Phe Cys Phe Val Leu Ala Leu Ile Leu Leu Pro Val Tyr  
                                  115                      120                      125  
 Ser Ile Tyr Ser Ile Thr Gly Ser Tyr Ser Cys Ser Leu Leu Leu Met  
                                  130                      135                      140  
 Tyr Leu Tyr Val Leu Leu Val Gly Thr Phe Ser Leu Leu Ser Val Tyr  
 145                      150                      155                      160  
 Ala Asn Arg Leu Arg Lys Asn Arg Ile Leu Phe Trp Asn Ala Met Ile  
                                  165                      170                      175  
 Asn Ser Leu Ala Leu Leu Cys Leu Ala Ile Pro Phe Gly Leu Trp Gly  
                                  180                      185                      190  
 Trp Gly Gly Thr Gly Phe Leu Met Ala Ser Thr Gly Gly Tyr Leu Val  
                                  195                      200                      205  
 Ala Asn Ile Gln Met Leu Tyr His Met Asn Pro Phe Lys Lys Ile Ala  
                                  210                      215                      220  
 Tyr Arg Asp Cys Val Ser Val Tyr Lys Asp Phe Lys Asp Phe Ile Ile  
 225                      230                      235                      240  
 Tyr Gln Phe Pro Ser Asn Leu Ile Ser Thr Phe Thr Ile Gln Leu Pro  
                                  245                      250                      255  
 Asn Gln Leu Phe Ser Ala Tyr Phe Gly Asn Ala Ser Leu Gly Gly Tyr  
                                  260                      265                      270  
 Ala Met Cys Glu Arg Ile Leu Gly Val Pro Met Arg Leu Ile Gly Ala  
                                  275                      280                      285  
 Pro Ile Thr Thr Ile Tyr Phe Arg His Ser Ser Glu Cys Ile Arg Glu  
                                  290                      295                      300  
 Cys Lys Asp Ile Ser Gly Phe Thr Tyr Ile Leu Ile Thr Arg Ile Leu  
 305                      310                      315                      320  
 Ile Leu Ala Phe Leu Pro Val Leu Ile Leu Phe Ser Cys Ser Glu Val

Leu	Phe	Thr	Phe	Ile	Leu	Gly	Asp	Ser	Trp	Leu	Leu	Val	Gly	Lys	Ile
			340					345					350		
Val	Ser	Ile	Leu	Ile	Phe	Pro	Tyr	Val	Leu	Leu	Phe	Cys	Ser	Asn	Cys
		355					360					365			
Val	Ser	Tyr	Cys	Leu	Val	Val	Ile	Gly	Lys	Gln	Lys	Ile	Asn	Leu	Tyr
		370					375					380			
Leu	Ser	Leu	Leu	Tyr	Leu	Met	Leu	Ile	Val	Ala	Ser	Val	Val	Ser	Gly
385					390					395					400
Phe	Tyr	Val	Phe	Ser	Asp	Phe	Val	Ser	Val	Val	Ile	Cys	Phe	Ala	Val
				405					410					415	
Ala	Leu	Ile	Val	Phe	Asn	Leu	Leu	Asn	Leu	Leu	Val	Ile	Phe	Tyr	Tyr
			420					425					430		
Leu	Arg	Lys	Asp	Phe	Gly	Arg	Phe	Val	Arg	Phe	Ile	Gly	Ile	Tyr	Leu
		435					440					445			
Leu	Leu	Ile	Tyr	Leu	Gly	Leu	Ile	Leu	Ile	Lys	Tyr	Leu			
		450				455					460				

<210> 5325

<211> 856

&lt;212&gt; PRT

<213> B.fragilis

<400> 5325

Ser	Glu	Tyr	Leu	Met	Arg	Arg	Phe	Ile	Thr	Leu	Phe	Phe	Leu	Ile	Phe
1				5					10					15	
Thr	Leu	Ser	Gly	Val	Ala	Val	Ala	Gln	Gln	Met	Ser	Asp	Asp	Gln	Val
			20					25					30		
Val	Gln	Tyr	Val	Lys	Asp	Ala	Gln	Lys	Met	Gly	Lys	Thr	Gln	Lys	Gln
		35					40					45			
Ile	Thr	Thr	Glu	Leu	Met	Arg	Arg	Gly	Val	Thr	Lys	Glu	Gln	Val	Glu
	50					55					60				
Arg	Ile	Gln	Glu	Lys	Tyr	Glu	Asn	Gly	Ser	Gly	Ser	Thr	Gly	Thr	Gln
65					70					75					80
Asn	Asn	Gln	Asn	Ser	Thr	Arg	Ser	Arg	Thr	Arg	Thr	Gln	Gln	Asn	Asp
				85					90					95	
Glu	Ser	Asp	Tyr	Ser	Asn	Arg	Ser	Gln	Lys	Asn	Leu	Lys	Asp	Gln	Lys
			100					105					110		
Asn	Gln	Lys	Asn	Gln	Lys	Asn	Gln	Lys	Asn	Ile	Lys	Gly	Leu	Arg	Gln
		115					120					125			
Ser	Asn	Asn	Gln	Lys	Asn	Lys	Arg	Gly	Met	Gly	Asp	Glu	Asn	Leu	Glu
	130					135					140				
Met	Thr	Asp	Glu	Asp	Met	Met	Asn	Glu	Glu	Asp	Trp	Ser	Asp	Glu	Tyr
145					150					155					160
Thr	Val	Lys	Pro	Glu	Glu	Asp	Pro	Thr	Gln	Gln	Ile	Phe	Gly	His	Asn
				165					170					175	
Ile	Phe	Thr	Asn	Glu	Asn	Leu	Thr	Phe	Glu	Pro	Asn	Leu	Asn	Ile	Ala
			180					185					190		
Thr	Pro	Val	Ser	Tyr	Arg	Leu	Gly	Pro	Gly	Asp	Glu	Val	Ile	Ile	Asp
		195					200					205			
Val	Trp	Gly	Ala	Ser	Gln	Thr	Thr	Ile	Arg	Gln	Thr	Ile	Ser	Pro	Glu
	210					215					220				
Gly	Ser	Ile	Leu	Val	Asp	Asn	Leu	Gly	Pro	Ile	Tyr	Leu	Ser	Gly	Met
225					230					235					240
Thr	Val	Arg	Glu	Ala	Asn	Asn	Ala	Val	Arg	Arg	Glu	Phe	Ala	Lys	Ile
				245					250					255	
Tyr	Ala	Gly	Ile	Ser	Gly	Pro	Asn	Pro	Asn	Thr	Ser	Val	Asp	Leu	Thr
			260					265					270		
Leu	Gly	Asn	Ile	Arg	Thr	Ile	Gln	Ile	Ser	Ile	Met	Gly	Glu	Val	Ala

275	280	285
Val Pro Gly Thr Tyr Ala	Leu Ser Ala Phe Ser	Ser Val Phe His Ala
290	295	300
Leu Tyr Arg Ala Gly Gly	Val Asn Lys Ile Gly	Ser Leu Arg Ser Ile
305	310	315
Lys Val Val Arg Asn Gly	Lys Lys Ile Ala Asp	Leu Asp Val Tyr Asp
325	330	335
Phe Ile Met Lys Gly Lys	Leu Asn Asp Asp Val	Arg Leu Gln Asp Gly
340	345	350
Asp Val Val Ile Val Asp	Pro Tyr Glu Ser Leu	Val Gln Ile Thr Gly
355	360	365
Lys Val Lys Arg Pro Met	Phe Tyr Glu Met Lys	Pro Ser Glu Thr Met
370	375	380
Ala Thr Ile Leu Lys Tyr	Ser Gly Gly Phe Thr	Gly Asp Ala Tyr Lys
385	390	395
Lys Ala Ile Arg Leu Ile	Arg Lys Thr Gly Arg	Glu His Gln Val Tyr
405	410	415
Asn Val Asp Glu Met Asp	Tyr Ser Val Phe Lys	Leu Asp Asp Gly Asp
420	425	430
Val Leu Ala Val Asp Ser	Val Leu Glu Arg Phe	Glu Asn Arg Val Glu
435	440	445
Val Arg Gly Ala Val Tyr	Arg Ala Gly Met Tyr	Gln Ile Asp Gly Thr
450	455	460
Val Asn Thr Val Lys Gln	Leu Ile Lys Lys Ala	Glu Gly Val Arg Gly
465	470	475
Asp Ala Phe Leu Asn Arg	Ala Ile Ile Asp Arg	Glu Asn Asp Asp Leu
485	490	495
Thr His Glu Met Ile Gln	Ile Asp Leu Lys Gly	Leu Leu Asn Gly Thr
500	505	510
Val Ala Asp Ile Pro Leu	Gln Lys Asn Asp Ile	Leu Tyr Ile Pro Ser
515	520	525
Ile Glu Asp Leu Lys Glu	Glu Ala Thr Leu Thr	Ile His Gly Glu Val
530	535	540
Ala Asn Pro Gly Thr Tyr	Leu Tyr Ser Ser Asn	Met Ser Val Glu Asp
545	550	555
Leu Val Leu Gln Ala Gly	Gly Leu Leu Glu Ala	Ala Ser Thr Ala Arg
565	570	575
Val Asp Val Ser Arg Arg	Ile Lys Asn Ser Lys	Ser Thr Glu Leu Ser
580	585	590
Asn Val Val Gly Lys Thr	Phe Ser Phe Glu Leu	Lys Asp Gly Phe Leu
595	600	605
Val Gly Gly Asp Gln Asp	Phe His Leu Glu Pro	Phe Asp Glu Val Tyr
610	615	620
Ile Arg Arg Ser Pro Ala	Tyr His Gln Gln Gln	Asn Val Thr Val Gly
625	630	635
Gly Glu Val Leu Phe Gly	Gly Arg Tyr Ala Leu	Ser Lys Lys Asn Glu
645	650	655
Arg Leu Ser Asp Leu Ile	Ser Lys Ala Gly Gly	Ile Thr Gln Asp Ala
660	665	670
Tyr Val Lys Gly Ala Arg	Leu Ile Arg Lys Met	Thr Glu Glu Glu Leu
675	680	685
Arg Arg Lys Glu Asp Ala	Leu Arg Met Ala Asn	Lys Gly Gly Ala Asp
690	695	700
Ser Ile Ser Val Lys Thr	Leu Asp Val Ser Asp	Thr Tyr Ser Val Gly
705	710	715
Ile Glu Leu Glu Lys Ala	Leu Ala Asn Pro Gly	Ser Asp Phe Asp Met
725	730	735
Val Leu Arg Glu Gly Asp	Ile Leu Phe Val Pro	Glu Tyr Val Ser Thr
740	745	750

Val	Lys	Ile	Asn	Gly	Ala	Val	Met	Tyr	Pro	Asn	Thr	Val	Leu	Tyr	Lys
	755						760					765			
Lys	Gly	Glu	Ser	Leu	Lys	Tyr	Tyr	Ile	Asn	Gln	Ala	Gly	Gly	Phe	Ala
	770					775						780			
Ser	Leu	Ala	Lys	Lys	Lys	Arg	Ala	Phe	Val	Val	Tyr	Met	Asn	Gly	Thr
785					790					795					800
Val	Ser	Arg	Leu	Arg	Thr	Gly	Asn	Ser	Lys	Ala	Ile	Glu	Pro	Gly	Cys
			805						810					815	
Glu	Ile	Ile	Val	Pro	Ser	Lys	Asp	Pro	Lys	Lys	Arg	Met	Ser	Ala	Ala
			820					825					830		
Glu	Ile	Ile	Gly	Met	Gly	Thr	Ser	Ala	Ala	Ser	Leu	Ala	Thr	Met	Ile
		835					840					845			
Ala	Thr	Met	Val	Asn	Leu	Phe	Lys								
	850					855									

&lt;210&gt; 5326

&lt;211&gt; 965

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5326

Met	Asn	Phe	Gln	Asp	Leu	His	Ile	Leu	Gly	Glu	Leu	Lys	Glu	Glu	Leu
1			5						10					15	
Leu	Tyr	Arg	Ile	Leu	Tyr	Ser	Thr	Asp	Ala	Ser	Ala	Tyr	Arg	Glu	Met
		20						25					30		
Pro	Ile	Ala	Val	Ala	Tyr	Pro	Lys	Asp	Ser	Ser	Asp	Val	Gln	Lys	Ile
		35					40					45			
Ser	Asn	Phe	Ala	Lys	Lys	Asn	Gln	Ile	Asn	Leu	Ile	Pro	Arg	Ala	Gly
	50					55					60				
Gly	Thr	Ser	Leu	Ala	Gly	Gln	Val	Val	Gly	Lys	Gly	Leu	Val	Val	Asp
65				70						75					80
Ile	Ser	Lys	Tyr	Met	Asn	His	Ile	Leu	Glu	Ile	Asn	Gln	Glu	Glu	Arg
			85						90					95	
Trp	Val	Arg	Val	Gln	Pro	Gly	Val	Val	Leu	Asp	Glu	Leu	Asn	Leu	Tyr
		100						105					110		
Cys	Lys	Pro	Tyr	Gly	Leu	Phe	Phe	Gly	Pro	Glu	Thr	Ser	Thr	Ser	Asn
	115						120					125			
Arg	Cys	Cys	Leu	Gly	Gly	Met	Val	Gly	Asn	Asn	Ser	Cys	Gly	Ser	His
	130					135					140				
Ser	Leu	Val	Tyr	Gly	Ser	Thr	Arg	Asp	His	Leu	Leu	Glu	Ala	Asn	Val
145					150					155					160
Val	Leu	Ser	Asp	Gly	Ser	Glu	Val	Val	Leu	Lys	Gly	Met	Thr	Ser	Lys
			165						170					175	
Glu	Ile	Asn	Glu	Lys	Cys	Lys	Leu	Asp	Ser	Leu	Glu	Gly	Arg	Ile	Tyr
		180						185					190		
Ser	Gln	Ile	Ile	Thr	Leu	Leu	Ser	Asn	Phe	Glu	Asn	Gln	Lys	Glu	Ile
		195					200					205			
Val	Asp	Asn	Tyr	Pro	Asp	Val	Ser	Leu	Arg	Arg	Arg	Asn	Ser	Gly	Tyr
	210					215						220			
Ala	Ile	Asp	Glu	Leu	Leu	Arg	Ser	Asn	Tyr	Phe	Asp	Lys	Asn	Cys	Ser
225				230						235					240
Glu	Ser	Phe	Asn	Leu	Cys	Lys	Leu	Leu	Ala	Gly	Ser	Glu	Gly	Thr	Leu
			245						250					255	
Ala	Leu	Ile	Thr	Glu	Leu	Lys	Leu	Lys	Leu	Val	Pro	Leu	Pro	Pro	Thr
		260						265					270		
Glu	Lys	Ala	Val	Ile	Cys	Val	His	Cys	Ser	Thr	Leu	Glu	Glu	Ser	Phe
	275						280					285			
Ala	Ala	Asn	Leu	Val	Ala	Leu	Arg	His	Ala	Pro	Val	Ala	Ile	Glu	Leu
	290					295					300				

Met Asp Ser Thr Ile Leu Glu Leu Ser Lys Gln Asn Ile Ser Gln Asn  
 305 310 315 320  
 Lys Asn Arg Phe Phe Ile Gln Gly Asp Pro Ala Ala Ile Leu Ile Ile  
 325 330 335  
 Glu Leu Ala Glu Gln Thr Arg Gly Glu Val Asp Lys Lys Ala Asn Glu  
 340 345 350  
 Ile Ile Asp Asp Leu Lys Ile His His Tyr Gly Thr His Tyr Pro Leu  
 355 360 365  
 Val Tyr Gly Lys Asp Ile Ser Arg Val Trp Ala Leu Arg Lys Ser Gly  
 370 375 380  
 Leu Gly Leu Leu Ser Gly Met Pro Gly Ser Ala Lys Pro Val Ser Leu  
 385 390 395 400  
 Ile Glu Asp Thr Ala Ile Ala Pro Glu Arg Leu Ala Ala Phe Ile Ala  
 405 410 415  
 Asp Leu Lys Val Met Leu Ser Lys Tyr Gly Leu Asp Cys Ile Tyr His  
 420 425 430  
 Gly His Ile Ser Thr Gly Glu Leu His Leu Arg Pro Val Leu Asn Leu  
 435 440 445  
 Lys Lys Glu Lys Asp Lys Lys Leu Phe Arg Leu Val Ala Thr Glu Thr  
 450 455 460  
 Ala Glu Leu Val Arg Lys His Arg Gly Ser Leu Ser Gly Glu His Gly  
 465 470 475 480  
 Asp Gly Arg Leu Arg Gly Glu Phe Ile Pro Leu Leu Leu Gly Asp Lys  
 485 490 495  
 Ile Tyr Ser Phe Leu Arg Asp Ile Lys Glu Thr Trp Asp Leu Pro His  
 500 505 510  
 Ile Phe Asn Ile Gly Lys Ile Val Asp Thr Pro Phe Met Asp Ile Asn  
 515 520 525  
 Leu Arg Tyr Glu Gln His Asn Leu Gly Val Lys Thr Tyr Phe Asp Phe  
 530 535 540  
 Ser Lys Gln Lys Gly Trp Leu Cys Ala Ile Glu Gln Cys Asn Gly Ser  
 545 550 555 560  
 Gly Asp Cys Arg Lys Ser Asn Leu Phe Gly Gly Thr Met Cys Pro Thr  
 565 570 575  
 Tyr Arg Ala Thr Arg Glu Glu Lys Asn Thr Thr Arg Ala Arg Ala Asn  
 580 585 590  
 Thr Leu Arg Glu Leu Leu Ile His Pro Ala His Asp Arg Ile Phe Ser  
 595 600 605  
 Gln Pro Glu Ile Leu Glu Val Leu Asp Thr Cys Val Ser Cys Lys Ala  
 610 615 620  
 Cys Lys Ser Glu Cys Pro Ser Asn Val Asp Met Ala Arg Tyr Lys Ala  
 625 630 635 640  
 Glu Tyr Leu Gln His His Tyr Asp Glu Thr Phe Val Ser Leu Arg Ser  
 645 650 655  
 Arg Leu Ile Ala Asn Leu Thr Lys Val Gln Lys Leu Gly Met Val Ala  
 660 665 670  
 Pro Trp Leu Tyr Asn Ala Phe Val Thr Ala Gln Phe Thr Ser Ser Leu  
 675 680 685  
 Leu Lys Arg Ile Leu Lys Phe Ala Pro Gln Arg Ser Ile Pro Arg Leu  
 690 695 700  
 Tyr Lys Ile Thr Leu Lys Ser Trp Leu Tyr Asn Asn Pro Asp Met Asn  
 705 710 715 720  
 Lys Cys Asn Arg Lys Val Tyr Leu Phe Ala Asp Glu Phe Thr Asn Tyr  
 725 730 735  
 Met Asp Val Glu Ile Gly Ile Lys Phe Ile Lys Leu Leu Arg Thr Leu  
 740 745 750  
 Gly Tyr Glu Val Ile Ile Pro Lys His Leu Glu Ser Gly Arg Thr Glu  
 755 760 765  
 Ile Ser Lys Gly Leu Leu Lys Lys Ala Lys Lys Ile Ala Glu Lys Asn



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      770                      775                      780
Ile Leu Phe Leu Lys Asp Ile Val Thr Glu Glu Ile Pro Leu Val Gly
785                      790                      795                      800
Ile Glu Pro Ser Cys Ile Leu Ser Phe Arg Asp Glu Tyr Pro Asp Leu
      805                      810                      815
Val Asp Glu Glu Leu Gln Gly Tyr Ala Arg Lys Leu Ser Val Asn Cys
      820                      825                      830
Leu Leu Tyr Asp Glu Phe Ile Val Arg Glu Met Arg Lys Gly Asn Ile
      835                      840                      845
Lys Gln Lys Gln Phe Thr Gln Ser Tyr Leu Tyr Ile Lys Leu His Gly
      850                      855                      860
His Cys His Gln Lys Ser Leu Ala Ser Ile Glu Pro Ser Lys Glu Met
865                      870                      875                      880
Leu Ser Leu Pro Lys Asn Tyr Gln Val Asp Ile Ile Pro Ser Gly Cys
      885                      890                      895
Cys Gly Met Ala Gly Ala Phe Gly Tyr Glu Lys Glu His Tyr Asp Leu
      900                      905                      910
Ser Met Gln Ile Gly Glu Gln Val Leu Phe Pro Ala Ile Arg Gln Ala
      915                      920                      925
Lys Glu Asp Val Cys Ile Ser Ala Pro Gly Thr Ser Cys Arg Gln Gln
      930                      935                      940
Ile Lys Asp Gly Thr Gly Arg Arg Ala Tyr His Pro Ile Glu Val Leu
945                      950                      955                      960
Tyr Asp Ala Leu Ile
      965

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<210> 5327
<211> 1084
<212> PRT
<213> B.fragilis

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<400> 5327
Ala Thr Leu His His Glu Arg Ala Asp Arg Gln Val Ala Gly Ser Gln
1                      5                      10                      15
Gln Val Leu Ser Ser Asn Met Ser Phe Thr Thr Ser Ile Asn Ile Glu
      20                      25                      30
Arg Asp Phe Gly Lys Ile Pro His Tyr Ile Val Thr Ala Asn Ala Arg
      35                      40                      45
Gln Thr Ile Gly Lys Ile Ile Asn His Phe Ala Ser Gly Ile His Ser
      50                      55                      60
Phe Cys Leu Ile Gly Ser Tyr Gly Thr Gly Lys Ser Ser Phe Ile Leu
65                      70                      75                      80
Ala Leu Glu Asn Cys Leu Cys Gly Lys Thr Val Gly Lys Asn Val Leu
      85                      90                      95
Leu Ser Gln Arg Gly Gln Phe Asn Ser Phe Glu Gln Phe Ser Phe Ile
      100                      105                      110
Asn Ile Val Gly Asp Tyr Ala Ser Leu Ala Asn Leu Leu Ala Ser His
      115                      120                      125
Leu Asn Ala Glu Ser Lys Asn Val Ile Ser Val Leu Asp Asn His Tyr
      130                      135                      140
Asn Arg Leu Gln Lys Thr Asn Gln Phe Leu Val Ile Val Ile Asp Glu
145                      150                      155                      160
Phe Gly Lys Val Leu Glu His Ala Ala Lys Asn Asn Pro Glu Lys Glu
      165                      170                      175
Met Tyr Phe Leu Gln Lys Phe Cys Glu Tyr Val Asn Asp Thr Ser Lys
      180                      185                      190
Asn Ile Leu Phe Leu Thr Thr Leu His Gln Gly Phe Gly Ala Tyr Ala
      195                      200                      205
Lys Gly Leu Lys Ala Glu Gln Lys Gln Glu Trp Thr Lys Val Lys Gly

```



Leu Tyr Leu Thr Leu Leu Lys Asn Thr Gly Ile His Thr Thr Ala Gly  
 690 695 700  
 Leu Gly Ser Pro Thr Glu Pro Ser Phe Gln Pro Leu Trp Asp Ala Cys  
 705 710 715 720  
 Glu Asn Phe Leu Arg Ser Thr Ile Gly Lys Pro His Lys Leu Gly Glu  
 725 730 735  
 Leu Phe Thr Leu Leu Glu Ala Ala Pro Phe Arg Leu Lys Gln Gly Leu  
 740 745 750  
 Leu Tyr Cys Trp Ile Pro Thr Tyr Leu Ile Ile Lys Arg Asp Asp Phe  
 755 760 765  
 Ala Leu Tyr Asn Ser Asp Gly Thr Tyr Val Pro Tyr Ile Asn Lys Glu  
 770 775 780  
 Val Leu Asp Leu Ile Leu Arg Ser Pro Asn Gly Phe Leu Ile Lys Ala  
 785 790 795 800  
 Phe Ala Val Asp Gly Val Arg Arg Thr Phe Phe Asp Lys Tyr Arg Glu  
 805 810 815  
 Ala Ile Asn Met Gly Ser Ser Glu Leu Ser Thr Gln Ser Phe Ile Glu  
 820 825 830  
 Thr Ile Arg Pro Phe Leu Thr Phe Tyr Lys Lys Leu Asn Ser Tyr Ala  
 835 840 845  
 Arg Arg Thr Lys Asp Ile Ser Pro Asn Ala Arg Lys Phe Arg Asp Val  
 850 855 860  
 Ile Ala Lys Ala Thr Asp Pro Glu Lys Thr Phe Phe Glu Val Leu Pro  
 865 870 875 880  
 Asp Glu Leu Gly Phe Lys Glu Ile Thr Leu Ser Gln Asn Pro Glu Ala  
 885 890 895  
 Ile Glu Ser Phe Val Ala Val Ile Gln Glu Ala Ile Arg Glu Leu Arg  
 900 905 910  
 Asn Cys Tyr Ser Glu Leu Val Gly Asn Ile Glu Gln Tyr Leu Leu Lys  
 915 920 925  
 Thr Leu Arg Leu Glu Glu Val Gly Phe Ser Asp Tyr His His Leu Ile  
 930 935 940  
 Ala Glu Arg Tyr Lys Ser Val Lys Thr Glu Leu Met Pro Val Asn Met  
 945 950 955 960  
 Arg Asn Phe Gln Ala Arg Leu Val Gly Asn Tyr Asp Asp Lys Thr Ala  
 965 970 975  
 Trp Ile Glu Ala Val Ser Tyr Val Ala Leu Asn Lys Pro Leu Thr Glu  
 980 985 990  
 Ile Arg Asp Thr Asp Lys Ser Phe Leu Leu Ala Thr Leu Lys Asp Met  
 995 1000 1005  
 Leu Phe Gln Leu Asp Asp Tyr Val Glu Met His Lys Thr Ala Ser Glu  
 1010 1015 1020  
 Asp Val Ile Arg Leu His Ile Thr Gln Asn Lys Ser Lys Ala Val Thr  
 1025 1030 1035 1040  
 Thr Gln Val Ile Leu Ser Glu Ala Met Arg Gln Glu Val Asn Ser Leu  
 1045 1050 1055  
 Glu Asn Lys Leu Glu Ser Ile Leu Ser Gly Asp Asn Ser Leu Asp Val  
 1060 1065 1070  
 Ala Ala Leu Ile Ala Ile Leu Lys Lys Lys Leu Lys  
 1075 1080

&lt;210&gt; 5328

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5328

Phe Tyr Ser His Cys Val Asp Gln His Cys Lys Gly Glu His Leu Gln  
 1 5 10 15

Glu Asp Asp Lys Arg Lys Gln Gly Ile Arg Ile Lys Leu Tyr Arg Ile  
                   20                  25                  30  
 Ser Tyr Asn His His Ile Ile Ser Ala Ile Thr Tyr Phe Phe Leu Tyr  
                   35                  40                  45  
 Ile Tyr Phe Thr Tyr Ser Ala Ile Val Arg Leu Phe Ile Leu Tyr Pro  
                   50                  55                  60  
 Phe Asn Glu Ile Ser Pro Val Leu Tyr Leu Ala Trp His Lys Thr Gly  
 65                  70                  75                  80  
 Asp Glu Thr Lys Ile Tyr Thr His  
                   85

<210> 5329  
 <211> 143  
 <212> PRT  
 <213> B.fragilis

<400> 5329  
 Lys Asn Gly Gln Asn Leu Gln Ser Asp Gly Ser Met Ser Phe Trp Asn  
 1                  5                  10                  15  
 Glu Ala Asn Val Ile Leu Trp Ile Ser Arg Asn Ser Leu Lys Ile Ser  
                   20                  25                  30  
 Leu Ala Asp Ile Glu Ser Ser Pro Tyr Ile Ser Lys Gln Leu Leu Arg  
                   35                  40                  45  
 His Thr Leu Glu His Leu Gln Glu Leu Asp Phe Ile Glu Ser Thr Gly  
                   50                  55                  60  
 Arg Ala Ser Gly Leu Arg Tyr Ile Leu His Lys Ser Lys Ile Gln Thr  
 65                  70                  75                  80  
 Thr Gly Glu Lys Ile Lys Tyr Ser Gln Leu Lys Arg Gln Gly Lys Ala  
                   85                  90                  95  
 Lys Gln Arg Glu Ala Val Ile Arg Tyr Ile Asn Thr Val Gly Thr Ile  
                   100                  105                  110  
 Thr Asn Ala Glu Ala Arg Glu Ile Leu Asn Leu Thr Glu Thr Ser Gln  
                   115                  120                  125  
 Ser Tyr Val Pro Arg Cys Tyr Pro Asn Tyr Gly Val Lys Asp Ile  
                   130                  135                  140

<210> 5330  
 <211> 291  
 <212> PRT  
 <213> B.fragilis

<400> 5330  
 Met Phe Thr Asn Leu Ile Lys Arg Val Ile Met Lys Tyr Ala Phe Ser  
 1                  5                  10                  15  
 Gly His Glu Ser Phe Gln Cys Lys Gly Leu Trp Leu Lys Lys Gly Tyr  
                   20                  25                  30  
 Asp Tyr Ala Lys Ala Gly Leu Ser Phe Thr Asp Asp Tyr Ala Val Val  
                   35                  40                  45  
 Glu Leu Gly Val Gly Lys Asn Met Val Ala Ser Ile Arg Tyr Trp Leu  
                   50                  55                  60  
 Arg Ala Phe Gly Ile Thr Asn Asp Asn Gly Val Pro Thr Glu Ile Gly  
 65                  70                  75                  80  
 Lys Tyr Leu Leu Asp Asp Asn Gly Ala Asp Pro Tyr Ile Glu Asp Thr  
                   85                  90                  95  
 Thr Thr Leu Trp Leu Leu His Tyr Met Leu Val Thr Ser Arg Val Ala  
                   100                  105                  110  
 Thr Leu Tyr Asn Ile Val Phe Thr Glu Tyr Asn Lys Thr Arg Lys Glu  
                   115                  120                  125  
 Phe Thr Lys Ala Asp Leu Ala Asn Ala Val Arg Arg Met Phe Ala Asp

130		135		140
Lys Cys Phe Asp Ser Thr Pro Tyr Asn Glu Lys Thr Val Trp Arg Asp				
145		150		155
Ile Asp Thr Met Leu Lys Asn Tyr Val Thr Pro Asp Ser Ile Lys Ala				160
		165		170
Cys Asp Asp Phe Ser Ala Leu Leu Ile Asp Leu Lys Leu Ile Gly Lys				175
		180		185
Thr Gly His Glu Asp Tyr Thr Phe Asn Cys Ser Ala Arg Ala Lys Met				190
		195		200
Glu Pro Leu Val Phe Leu Phe Ala Val Leu Asp Ile Thr Gln Gly Lys				205
		210		215
Gln Gln Val Ile Glu Phe Glu Val Leu Leu Arg Leu Ala Asn Ile Phe				220
225		230		235
Gly Met Ser Val Asn Glu Leu Tyr Asp Val Phe Asp Gln Leu His Thr				240
		245		250
Ile Asp Pro His Ile Thr Phe Cys Asn Thr Ala Gly Glu Gln Leu Phe				255
		260		265
Thr Met Lys Glu Arg Ile Asp Lys Trp Gln Val Leu Asn Lys Tyr Tyr				270
		275		280
Gln Ala Thr				285
290				

&lt;210&gt; 5331

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5331

Lys Asn Ala Asn Thr Lys Thr Gln Pro Pro Ile Thr Glu Pro Ile Lys	
1	5
Glu Thr Arg Gly Arg Lys Ala Gly Ala Gln Ile Pro Gly Ile Ile Ser	
	20
Asn Asn Glu Gly Val Ile Lys Ala Leu Ile Glu Ser Tyr Ile Leu Asp	
	35
Ala Lys Glu Gln Asn Ile Lys Thr Cys Lys Asp Ser Leu Ala Arg Tyr	
	50
Ile Glu Gly Lys Lys Leu Phe Gly Lys Ile Arg Asn Gly Val Phe Lys	
65	70
Pro Leu Val Leu Ser Thr Ile Arg Thr Tyr Val Asn Glu Ile Trp Asn	
	85
Lys Met Glu Arg Lys Lys Lys Asn Gln Glu Gly Lys Arg	
	100
	105

&lt;210&gt; 5332

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5332

Thr Phe His Lys Val Lys Pro Arg Leu Asn Ile Glu Ser Arg Ile Phe	
1	5
Gln Thr Leu His Tyr Tyr Ile Leu Thr Leu Met Phe Arg Ser Lys Gly	
	20
Lys Ile Arg Ile Leu Ser Phe Phe Ser Ser Gly Tyr Glu Asn Pro Gln	
	35
Lys Gly Lys Glu Asn Ile Leu Pro Leu Ile Ile Leu Phe Ser Ile Lys	
	50
	55
	60

&lt;210&gt; 5333

<211> 64  
 <212> PRT  
 <213> B.fragilis

<400> 5333

Arg	Gly	Asn	Lys	Arg	Glu	Asn	Glu	Thr	Phe	Ser	Leu	Leu	Asn	Cys	Leu
1				5					10					15	
Thr	Leu	Asn	Glu	Ile	Val	Leu	Lys	Lys	Val	Ser	Val	Ser	Ile	Asn	Asp
			20					25					30		
Arg	Leu	Ile	Glu	Arg	Lys	Asp	Arg	Gly	Tyr	Phe	His	Asn	Cys	Lys	Met
		35					40					45			
Phe	Asn	Lys	Lys	Asn	Val	Phe	Leu	His	Gly	Leu	Ile	Tyr	Leu	Ile	Val
	50					55					60				

<210> 5334  
 <211> 531  
 <212> PRT  
 <213> B.fragilis

<400> 5334

Asp	Met	Ser	Lys	Gln	Leu	Leu	Leu	Gly	Asp	Glu	Ala	Ile	Ala	Gln	Ala
1				5				10						15	
Ala	Leu	Asp	Ala	Gly	Leu	Ser	Gly	Val	Tyr	Ala	Tyr	Pro	Gly	Thr	Pro
			20					25					30		
Ser	Thr	Glu	Ile	Thr	Glu	Tyr	Ile	Gln	Met	Ala	Pro	Ile	Thr	Ser	Glu
		35					40					45			
Arg	Asn	Ile	His	Asn	Arg	Trp	Cys	Ala	Asn	Glu	Lys	Thr	Ala	Met	Glu
	50					55				60					
Ala	Ala	Leu	Gly	Met	Ser	Phe	Val	Gly	Lys	Arg	Ala	Leu	Val	Cys	Met
65					70					75				80	
Lys	His	Val	Gly	Met	Asn	Val	Ala	Ala	Asp	Cys	Phe	Ile	Asn	Ser	Ala
				85					90				95		
Ile	Thr	Gly	Val	Lys	Gly	Gly	Leu	Ile	Val	Val	Ala	Ala	Asp	Asp	Pro
			100					105					110		
Ser	Met	His	Ser	Ser	Gln	Asn	Glu	Gln	Asp	Ser	Arg	Phe	Tyr	Gly	Asp
		115				120						125			
Phe	Ser	Leu	Ile	Pro	Met	Tyr	Glu	Pro	Ser	Asn	Gln	Glu	Ala	Tyr	
	130					135					140				
Asp	Met	Val	Tyr	Asn	Gly	Phe	Glu	Phe	Ser	Glu	Lys	Ile	Gly	Glu	Pro
145					150					155					160
Ile	Leu	Met	Arg	Met	Val	Thr	Arg	Leu	Ala	His	Ser	Arg	Ser	Gly	Val
				165					170					175	
Glu	Asn	Lys	Ala	Gln	Lys	Pro	Gln	Asn	Glu	Ile	Ser	Phe	Ser	Glu	Asp
			180					185					190		
Pro	Arg	Gln	Phe	Ile	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Lys	Arg	Tyr	Lys
		195					200					205			
Val	Leu	Leu	Thr	Arg	Gln	Glu	Glu	Phe	Ile	Lys	Ala	Ser	Glu	Glu	Ser
	210					215					220				
Pro	Tyr	Asn	Arg	Tyr	Ile	Asp	Gly	Pro	Asn	Lys	Lys	Thr	Gly	Ile	Val
225					230					235					240
Ala	Cys	Gly	Ile	Gly	Tyr	Asn	Tyr	Leu	Met	Glu	Asn	Tyr	Pro	Glu	Gly
				245					250					255	
Cys	Glu	Tyr	Pro	Val	Leu	Lys	Val	Gly	Gln	Tyr	Pro	Leu	Pro	Lys	Lys
		260						265				270			
Gln	Leu	Met	Gln	Leu	Ile	Asp	Ala	Cys	Asp	Glu	Ile	Leu	Val	Leu	Glu
		275					280					285			
Asp	Gly	Gln	Pro	Phe	Val	Glu	Lys	Gln	Leu	Lys	Gly	Tyr	Leu	Gly	Ile
	290					295					300				
Gly	Leu	Lys	Val	Lys	Gly	Arg	Leu	Asp	Gly	Thr	Leu	Ser	Gln	Asp	Gly

305                      310                      315                      320  
 Glu Leu Asn Pro Asp Thr Val Ala Arg Ala Leu Gly Lys Glu Asn Ser  
                                  325                      330                      335  
 Ser Glu Phe Asn Val Pro Asn Ile Val Glu Met Arg Pro Pro Ala Leu  
                                  340                      345                      350  
 Cys Glu Gly Cys Gly His Arg Asp Met Tyr Ile Thr Leu Thr Gln Val  
                                  355                      360                      365  
 Leu Lys Glu Glu Tyr Pro Thr His Lys Val Phe Ser Asp Ile Gly Cys  
                                  370                      375                      380  
 Tyr Thr Leu Gly Ala Asn Ala Pro Phe Asn Ala Ile Asn Ser Cys Val  
 385                      390                      395                      400  
 Asp Met Gly Ala Ser Ile Thr Met Ala Lys Gly Ala Ser Asp Gly Gly  
                                  405                      410                      415  
 Leu His Pro Ala Val Ala Val Ile Gly Asp Ser Thr Phe Thr His Ser  
                                  420                      425                      430  
 Gly Met Thr Gly Leu Leu Asp Cys Val Asn Glu Asn Ala Asn Val Thr  
                                  435                      440                      445  
 Ile Val Ile Ser Asp Asn Glu Thr Thr Ala Met Thr Gly Gly Gln Asp  
 450                      455                      460  
 Ser Ala Gly Thr Gly Arg Leu Glu Ala Ile Cys Ala Gly Leu Gly Val  
 465                      470                      475                      480  
 Asp Pro Ala His Ile Arg Val Val Val Pro Leu Lys Lys Asn Tyr Glu  
                                  485                      490                      495  
 Glu Met Lys Gln Ile Ile Arg Glu Glu Ile Asn Tyr Lys Gly Val Ser  
                                  500                      505                      510  
 Val Ile Ile Pro Arg Arg Glu Cys Ile Gln Thr Leu Ala Arg Lys Lys  
                                  515                      520                      525  
 Arg Ser Lys  
 530

<210> 5335  
 <211> 142  
 <212> PRT  
 <213> B.fragilis

<400> 5335  
 Ile Leu Ser Asn Arg Asn Thr Phe Asp Pro Thr Tyr Leu Trp Gly Asp  
 1                      5                      10                      15  
 Asn Leu Ser Ile Asn Pro Leu Asn His Ile Arg Met Lys Gln Lys Lys  
                                  20                      25                      30  
 Arg Pro Ala Ser Gln Thr Glu Ala Met Lys Leu Arg Trp Lys Lys Arg  
                                  35                      40                      45  
 Ile Val Phe Glu Lys Gly Tyr Thr Glu Met Cys Ala Glu Trp Met Ala  
                                  50                      55                      60  
 Glu Arg Leu Glu Ala Leu Thr Asp His Leu Gln Tyr Gly His Ala Ala  
 65                      70                      75                      80  
 Ile Ala Tyr Gln Lys Gln Asn Gly Asp Phe Arg Leu Val Lys Ala Thr  
                                  85                      90                      95  
 Leu Ile Tyr Tyr Glu Thr Glu Phe His Lys Lys Tyr Asp Pro Thr Gln  
                                  100                      105                      110  
 Ile Glu Gly Ala Val Val Tyr Trp Asn Val Asp Glu Gln Arg Trp Thr  
                                  115                      120                      125  
 Thr Phe Gln Met Glu Asn Phe Met Glu Trp Arg Pro Ile Val  
                                  130                      135                      140

<210> 5336  
 <211> 410  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5336

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Ile Leu Pro Lys Leu Leu Ile Tyr Met Lys Gln His Leu Leu Lys Glu
1      5      10      15
Ile Glu Leu Gly Thr Lys Ser Ala Leu Lys Lys Lys Ile Ile Thr
20      25      30
His Tyr Ile Tyr Asn Gly Ser Ser Thr Ile Thr Asp Leu Ser Lys Glu
35      40      45
Leu Asp Leu Ser Val Pro Thr Val Thr Lys Phe Ile Ser Glu Met Cys
50      55      60
Glu Glu Gly Tyr Ile Asn Asp Tyr Gly Lys Leu Glu Thr Ser Gly Gly
65      70      75      80
Arg His Pro Asn Leu Tyr Gly Leu Asn Pro Glu Ser Gly Tyr Phe Ile
85      90      95
Gly Val Asp Ile Lys Arg Phe Ala Ile Asn Ile Gly Leu Ile Asn Phe
100     105     110
Lys Gly Asp Met Met Glu Leu Lys Met Asn Ile Pro Tyr Lys Phe Glu
115     120     125
Asn Ser Ile Glu Gly Leu Asn Glu Leu Cys Lys Leu Ile Ser Asn Phe
130     135     140
Ile Lys Lys Leu Thr Ile Ala Lys Asp Lys Ile Leu Asn Ile Asn Val
145     150     155     160
Asn Val Ser Gly Arg Val Asn Pro Glu Ser Gly Tyr Ser Phe Ser Gln
165     170     175
Phe Asn Phe Glu Glu Arg Pro Leu Ser Glu Val Leu Ala Glu Lys Leu
180     185     190
Gly Tyr Lys Val Thr Ile Asp Asn Asp Thr Arg Ala Met Thr Tyr Gly
195     200     205
Glu Tyr Leu Lys Gly Cys Val Asn Gly Glu Lys Asp Ile Ile Phe Val
210     215     220
Asn Ile Ser Trp Gly Leu Gly Val Gly Ile Ile Ile Asp Gly Lys Ile
225     230     235     240
Tyr Thr Gly Lys Ser Gly Phe Ser Gly Glu Phe Gly His Thr Ser Thr
245     250     255
Phe Asp Asn Glu Ile Ile Cys His Cys Gly Lys Lys Gly Cys Leu Glu
260     265     270
Thr Glu Ala Ser Gly Ser Ala Leu His Arg Ile Leu Leu Glu Arg Ile
275     280     285
Gln Asn Gly Glu Asn Ser Ile Leu Ser Asn Arg Ile Gly Asp Ile Asn
290     295     300
Asn Pro Ile Thr Leu Asp Glu Ile Ile Ala Ser Val Asn Lys Glu Asp
305     310     315     320
Leu Leu Cys Ile Glu Ile Val Glu Glu Ile Gly Gln Lys Leu Gly Lys
325     330     335
Gln Ile Ala Gly Leu Ile Asn Leu Phe Asn Pro Glu Leu Val Ile Ile
340     345     350
Gly Gly Thr Ile Ser Leu Thr Gly Asp Tyr Ile Thr Gln Pro Ile Lys
355     360     365
Thr Ala Val Arg Lys Tyr Ser Leu Asn Leu Val Asn Lys Asp Ser Ala
370     375     380
Ile Val Thr Ser Lys Leu Lys Asp Arg Ala Gly Ile Val Gly Ala Cys
385     390     395     400
Met Leu Ala Arg Ser Arg Met Phe Glu Cys
405     410

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&lt;210&gt; 5337

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; B.fragilis



&lt;400&gt; 5337

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Ile Arg Gln Lys Glu Asn Asn Pro Asp Arg Lys Val Gln Phe Ala Val
1          5          10          15
Asp Lys Lys Ala Ser Ile Pro Val Ser Ile Arg Lys Val Leu Cys Arg
20          25          30
Glu Trp Lys Thr Gly Arg Thr Phe Lys Gln Met Ile Tyr Ser His Phe
35          40          45
Arg Ala Gln Tyr Phe Asn Leu Gln Lys Leu Tyr Phe Asn Val Thr Leu
50          55          60
Lys Phe Val Phe Arg Leu Gln Ile Ala Asn Ser Leu Asn Ala Lys Asp
65          70          75          80
Leu Leu Phe Ala Asp Lys Asn Lys Ala Ile Gly Lys Trp His
85          90

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&lt;210&gt; 5338

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5338

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Ala Met Lys Lys Asp Ile Ile Leu Ser Gly Val Gly Gly Gln Gly Ile
1          5          10          15
Leu Ser Ile Ala Thr Val Ile Gly Lys Ala Ala Leu Lys Asp Gly Leu
20          25          30
Tyr Met Lys Gln Ala Glu Val His Gly Met Ser Gln Arg Gly Gly Asp
35          40          45
Val Gln Ser Asn Leu Arg Ile Ser Asp Gln Pro Ile Ala Ser Asp Leu
50          55          60
Ile Pro Ser Gly Lys Cys Asp Leu Ile Ile Ser Leu Glu Pro Met Glu
65          70          75          80
Gly Leu Arg Tyr Leu Pro Tyr Leu Gly His Glu Gly Trp Leu Val Thr
85          90          95
Asn Glu Thr Pro Phe Val Asn Ile Pro Asn Tyr Pro Ala Glu Ser Asp
100          105          110
Val Met Ala Glu Ile Asn Lys Leu Pro His Lys Val Val Leu Asn Val
115          120          125
Asp Lys Val Ala Lys Glu Leu Gly Ser Thr Arg Val Ala Asn Ile Val
130          135          140
Leu Leu Gly Ala Thr Ile Pro Phe Leu Gly Ile Asp Tyr Glu Lys Ile
145          150          155          160
Gln Asp Ser Ile Arg Glu Ile Phe Gln Arg Lys Gly Asp Ala Ile Val
165          170          175
Glu Leu Asn Leu Lys Ala Leu Ala Ala Gly Lys Glu Ile Ala Glu Lys
180          185          190
Thr Met Lys
195

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&lt;210&gt; 5339

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5339

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Ser Met Lys Asn Phe Ala Leu Ile Gly Ala Ala Gly Tyr Ile Ala Pro
1          5          10          15
Arg His Leu Arg Ala Ile Lys Asp Thr Gly Asn Arg Leu Val Ala Ala
20          25          30
Tyr Asp Thr Phe Asp Ser Val Gly Ile Met Asp Ser Phe Phe Pro Glu

```

35	40	45
Ser Ser Phe Phe Val Glu Gln Glu Leu Phe Asp Arg His Cys Thr Lys		
50	55	60
Leu Lys Gly Thr Asp Lys Gln Ile Asp Phe Leu Ser Ile Cys Thr Pro		
65	70	75
Asn Tyr Leu His Asp Ala His Met Arg Tyr Gly Leu Arg Leu Gly Ala		
85	90	95
Asp Val Ile Cys Glu Lys Pro Leu Val Leu Asn Pro Trp Asn Val Asp		
100	105	110
Ala Leu Gln Glu Val Glu Arg Glu Thr Gly His His Ile Tyr Thr Ile		
115	120	125
Leu Gln Leu Arg Leu His Gln Ser Ile Ile Asp Leu Lys Lys Lys Ile		
130	135	140
Glu Asn Gly Pro Lys Asp Lys Ile Tyr Asp Val Asp Leu Thr Tyr Ile		
145	150	155
Thr Ser Arg Gly Asn Trp Tyr Tyr Thr Ser Trp Lys Gly Asp Met His		
165	170	175
Lys Ser Gly Gly Ile Ala Thr Asn Ile Gly Val His Phe Tyr Asp Met		
180	185	190
Leu Ser Trp Val Phe Gly Pro Val Lys Lys Asn Ile Val His Val Tyr		
195	200	205
Thr His Asp Arg Ala Ala Gly Tyr Leu Glu Leu Glu Lys Ala Arg Val		
210	215	220
Arg Tyr Phe Leu Ser Ile Asn Ser Glu Asn Leu Pro Glu Asn Ala Val		
225	230	235
Gln Gly Glu Lys Leu Thr Tyr Arg Thr Ile Asn Ile Asp Gly Glu Glu		
245	250	255
Phe Glu Phe Ser Lys Gly Phe Thr Glu Leu His Thr Glu Ser Tyr Lys		
260	265	270
Asp Ile Leu Ala Gly Asn Gly Phe Gly Ile Glu Asp Ala Arg Asn Ala		
275	280	285
Ile Asn Ile Val Tyr Asp Ile Arg His Ala Glu Pro Ile Gly Leu Lys		
290	295	300
Gly Asp Tyr His Pro Leu Ala Lys Leu Pro Leu Ser Lys His Pro Phe		
305	310	315
Gly Trp		320

&lt;210&gt; 5340

&lt;211&gt; 89

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5340

Lys Tyr Glu Lys Asn Arg Lys Cys Gly Gly Tyr Thr Glu Lys Asn Asn	
1	15
Cys His Cys Pro Arg Tyr Lys Ile Leu Phe Ala His Ile Leu Glu Arg	
20	30
Tyr Tyr Arg Asp Phe Glu Ala Phe Ile Pro Ile Trp Ala Gly Cys Pro	
35	45
Gly Ile His Thr Pro Trp Lys Arg Glu Val Met Gln Glu Ser Gly Cys	
50	60
Cys Lys Pro Tyr Leu Pro Lys Lys Leu Pro Asp Ser Ser Arg Ile Glu	
65	80
Phe Cys Phe Asp Val Phe Val Ile Cys	
85	

&lt;210&gt; 5341

&lt;211&gt; 376

<212> PRT  
 <213> B.fragilis

<400> 5341

Phe	Ile	Met	Asn	Lys	Arg	Ile	Trp	Leu	Ser	Leu	Ala	His	Met	Gly	Gly
1			5					10					15		
Arg	Glu	Gln	Asp	Phe	Ile	Lys	Glu	Ala	Phe	Asp	Thr	Asn	Trp	Val	Val
			20					25					30		
Pro	Leu	Gly	Pro	Asn	Val	Asp	Ala	Phe	Glu	Gln	Ser	Leu	Ala	Glu	Tyr
		35					40					45			
Leu	His	Glu	Asp	Arg	Arg	Val	Val	Ala	Leu	Ser	Ala	Gly	Thr	Ala	Ala
	50					55					60				
Leu	His	Leu	Gly	Leu	Ile	Leu	Leu	Asn	Val	Lys	Pro	Gly	Asp	Glu	Val
65					70					75				80	
Ile	Cys	Gln	Ser	Phe	Thr	Phe	Ala	Ala	Ser	Ala	Asn	Pro	Ile	Ser	Tyr
			85						90				95		
Leu	Glu	Ala	Lys	Pro	Val	Phe	Val	Asp	Ser	Glu	Lys	Asp	Thr	Trp	Asn
			100					105					110		
Met	Asp	Pro	Val	Leu	Leu	Glu	Glu	Ala	Ile	Lys	Asp	Arg	Leu	Arg	Lys
	115						120					125			
Thr	Gly	Lys	Leu	Pro	Lys	Ala	Ile	Ile	Pro	Val	His	Leu	Tyr	Gly	Met
	130					135					140				
Pro	Ala	Lys	Met	Asp	Glu	Ile	Met	Asp	Ile	Ala	Gly	Arg	Tyr	Gly	Ile
145					150					155					160
Pro	Val	Leu	Glu	Asp	Ala	Ala	Glu	Ala	Leu	Gly	Ser	Glu	Leu	Asn	Gly
			165						170					175	
Arg	Lys	Cys	Gly	Thr	Phe	Gly	Glu	Leu	Ala	Ala	Leu	Ser	Phe	Asn	Gly
			180					185					190		
Asn	Lys	Met	Ile	Thr	Thr	Ser	Gly	Gly	Gly	Ala	Leu	Ile	Cys	Arg	Thr
	195						200					205			
Glu	Glu	Glu	Ala	Arg	Gln	Thr	Lys	Phe	Tyr	Ala	Thr	Gln	Ala	Arg	Asp
	210					215					220				
Ala	Ala	Pro	His	Tyr	Gln	His	Thr	His	Ile	Gly	Tyr	Asn	Tyr	Arg	Met
225					230					235					240
Ser	Asn	Ile	Cys	Ala	Gly	Ile	Gly	Arg	Gly	Gln	Met	Phe	Val	Leu	Asp
			245						250				255		
Glu	His	Ile	Ala	Arg	Arg	Arg	Ala	Ile	His	Ser	Leu	Tyr	Val	Asp	Leu
		260						265					270		
Leu	Lys	Asp	Val	Ala	Gly	Ile	Thr	Val	Met	Glu	Asn	Pro	Asp	Ser	Arg
	275						280					285			
Phe	Ala	Ser	Asn	Phe	Trp	Leu	Thr	Cys	Ile	Leu	Val	Asp	Pro	Lys	Leu
	290					295					300				
Ala	Gly	Lys	Ser	Arg	Glu	Asp	Ile	Arg	Leu	Lys	Leu	Asp	Ser	Glu	Asn
305					310					315					320
Ile	Glu	Thr	Arg	Pro	Leu	Trp	Lys	Pro	Met	His	Leu	Gln	Pro	Val	Phe
			325						330					335	
Thr	Asp	Ala	Pro	Phe	Tyr	Gly	Asn	Gly	Thr	Ser	Glu	Arg	Leu	Phe	Asp
		340						345					350		
Ile	Gly	Leu	Cys	Leu	Pro	Ser	Gly	Pro	Thr	Leu	Thr	Asp	Glu	Asp	Ile
	355						360					365			
Arg	Arg	Val	Val	Asp	Met	Ile	Arg								
	370					375									

<210> 5342  
 <211> 522  
 <212> PRT  
 <213> B.fragilis

<400> 5342

Lys Lys Met Lys Gln Lys Gln Phe Tyr Phe Ile Tyr Val Phe Leu Leu  
 1 5 10 15  
 Ser Met Thr Phe Leu Gly Ala Cys Ser Lys Asp Ser Pro Asn Glu Leu  
 20 25 30  
 Ile Pro Asn Thr Ile Val Lys Ile Glu Ile Asp Glu Leu Pro Gly Lys  
 35 40 45  
 Arg Ile Tyr Phe Ile Gly Glu Glu Leu Asp Val Ser Asp Met Thr Leu  
 50 55 60  
 Lys Val Phe Tyr Ser Asn Glu Thr Ser Glu Ile Val Pro Val Lys Lys  
 65 70 75 80  
 Asp Glu Val Thr Gly Phe Asn Ser Thr Val Pro Glu Asn Asp Gln Ile  
 85 90 95  
 Leu Glu Val His Lys Gly Ser Phe Thr Val Thr Phe Lys Ile Gln Val  
 100 105 110  
 Leu Ile Asn Asp Ile Gln Ala Ile Ser Ile Lys Thr Leu Pro Ser Lys  
 115 120 125  
 Thr Val Tyr Thr Leu Gly Glu Pro Leu Ser Leu Ser Asn Met Val Leu  
 130 135 140  
 Glu Ile Asn Tyr Ala Asp Gly Thr Ile Lys Glu Asn Ser Ala Pro Ser  
 145 150 155 160  
 Ala Asp Trp Val Gln Gly Phe Asn Ser Ser Val Pro Ala Gln Leu Gln  
 165 170 175  
 Ile Val Thr Leu Glu Leu Asp Gly Lys Gln Val Ser Phe Asp Val Gln  
 180 185 190  
 Ile Leu Pro Val Lys Val Asp Gly Asp Lys Val Val Ser Val Ile Asp  
 195 200 205  
 Ser Asp Phe Thr Ser Ile Thr Phe Pro Asp Gly Ile Arg Thr Ile Gly  
 210 215 220  
 Ser Lys Ala Phe Glu Asn Lys Asn Ile Lys Ala Ser Glu Leu Leu Phe  
 225 230 235 240  
 Pro Ala Ser Leu Ser Thr Ile Glu Gln Ala Ala Phe Ala Tyr Cys Arg  
 245 250 255  
 Asn Leu Lys Ile Val Asp Leu Ser His Thr Ser Ile Lys Glu Leu Pro  
 260 265 270  
 Glu Glu Ala Phe Leu Phe Ser Gly Ile Lys Lys Ile Ala Leu Pro Ala  
 275 280 285  
 Ser Leu Glu Ile Val Gly Lys Glu Ala Phe Tyr Gly Cys Thr Asp Leu  
 290 295 300  
 Asn Val Ile Asp Ile Ser His Thr Ser Val Lys Glu Leu Gln Asn Gly  
 305 310 315 320  
 Ala Phe Gly Lys Ser Gly Ile Ser Ser Ile Ser Leu Pro Ser Thr Phe  
 325 330 335  
 Lys Ile Val Gly Thr Ser Ala Phe Ile Glu Thr Lys Asn Leu Lys Glu  
 340 345 350  
 Leu Thr Leu Pro Glu Gly Ser Glu Val Ile Asp Leu Glu Ala Phe Ser  
 355 360 365  
 Gly Ser Ser Ile Gln Lys Val Thr Leu Pro Asn Thr Ile Tyr His Ile  
 370 375 380  
 Asp Arg Ser Phe Tyr Asn Cys Pro Glu Leu Thr Thr Ile Glu Thr Tyr  
 385 390 395 400  
 Gly Thr Arg Thr Thr Pro Ser Pro Val Asp Arg Thr Ala Ala Ile Val  
 405 410 415  
 Ser Glu Cys Phe Asn His Ser Pro Lys Leu Thr Val Leu Lys Ile Pro  
 420 425 430  
 Ala Ser Ile Ala Lys Ile Gly Ile Ser Ala Leu Asn Lys Cys Gln Val  
 435 440 445  
 Lys Thr Leu Ile Leu Pro Ala Ser Val Lys Ala Leu Asp Phe Asn Ala  
 450 455 460  
 Phe Gly Asn Ala Val Ser Leu Asp Glu Ile Ser Leu Met Ser Pro Thr

465                      470                      475                      480  
 Met Val Thr Ala Asp Tyr Tyr Pro Val Ala Pro Gly Ile Gln Lys Ile  
                                  485                      490                      495  
 Arg Val Pro Gln Asn Leu Val Glu Thr Tyr Lys Gln Asn Lys Ala Trp  
                                  500                      505                      510  
 Lys Pro Phe Ala Glu Lys Ile Val Ala Leu  
                                  515                      520

<210> 5343  
 <211> 325  
 <212> PRT  
 <213> B.fragilis

<400> 5343  
 Ile Met Lys Lys Glu Asp Leu Arg Ile Val Tyr Met Gly Thr Pro Asp  
 1                      5                      10                      15  
 Phe Ala Val Glu Ala Leu Gln Cys Leu Val Glu Gly Gly Tyr Asn Val  
                                  20                      25                      30  
 Val Gly Val Ile Thr Met Pro Asp Lys Pro Ala Gly Arg Gly His Lys  
                                  35                      40                      45  
 Ile Gln Tyr Ser Pro Val Lys Gln Tyr Ala Leu Asp His Gln Leu Pro  
                                  50                      55                      60  
 Leu Leu Gln Pro Glu Lys Leu Lys Asp Glu Glu Phe Ile Gln Ala Leu  
 65                      70                      75                      80  
 Arg Glu Trp Lys Ala Asp Leu Gln Ile Val Val Ala Phe Arg Met Leu  
                                  85                      90                      95  
 Pro Glu Val Val Trp Asn Met Pro Arg Leu Gly Thr Phe Asn Leu His  
                                  100                      105                      110  
 Ala Ser Leu Leu Pro Gln Tyr Arg Gly Ala Ala Pro Ile Asn Trp Ala  
                                  115                      120                      125  
 Val Ile Asn Gly Asp Thr Glu Thr Gly Ile Thr Thr Phe Phe Leu Lys  
                                  130                      135                      140  
 His Glu Ile Asp Thr Gly Glu Val Ile Gln Gln Val Arg Ile Pro Ile  
 145                      150                      155                      160  
 Ala Asp Thr Asp Asn Val Glu Ile Val His Asp Lys Leu Met His Leu  
                                  165                      170                      175  
 Gly Gly Arg Leu Val Ile Glu Thr Val Asp Ala Ile Leu Glu Gly Lys  
                                  180                      185                      190  
 Val Lys Ser Ile Pro Gln Glu Glu Met Ala Val Ala Gly Glu Leu Arg  
                                  195                      200                      205  
 Pro Ala Pro Lys Ile Phe Lys Glu Thr Cys Arg Ile Asp Trp Asn Gln  
                                  210                      215                      220  
 Pro Val Lys Arg Val Tyr Asp Phe Ile Arg Gly Leu Ser Pro Tyr Pro  
 225                      230                      235                      240  
 Ala Ala Trp Ser Glu Leu Val Asn Pro Glu Gly Glu Ala Val Val Val  
                                  245                      250                      255  
 Lys Ile Phe Glu Ser Glu Lys Leu Pro Lys Val His Thr Leu Ala Pro  
                                  260                      265                      270  
 Gly Ser Ile Val Thr Asp Gly Lys Asn Phe Leu Arg Val Ala Val Pro  
                                  275                      280                      285  
 Asp Gly Phe Val Asn Val Leu Ser Leu Gln Leu Pro Gly Lys Lys Arg  
                                  290                      295                      300  
 Leu Lys Thr Asp Glu Leu Leu Arg Gly Phe His Leu Thr Glu Ala Phe  
 305                      310                      315                      320  
 Lys Met Lys Ala Val  
                                  325

<210> 5344  
 <211> 181

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5344

```

Arg Phe Ile Glu Arg Met Glu Glu Thr Ala Arg Lys Ile Lys Glu Asn
1           5           10           15
Thr Ser Cys Trp Tyr Ala Val Tyr Thr Ala Pro Arg Ala Glu Lys Lys
          20           25           30
Val Lys Glu Gln Leu Asp Lys Ile Gly Val Glu Asn Tyr Leu Pro Leu
          35           40           45
Gln Pro Val Val Arg Leu Trp Asn Asn Arg Lys Lys Lys Ile Phe Ile
          50           55           60
Pro Val Val Pro Gly Cys Leu Phe Val His Ile Ser Ser Glu Glu Ile
65           70           75           80
Ala His Val Ala Gly Ile His Gly Val Ala Phe Leu Leu Lys Glu Lys
          85           90           95
Gly Gln Tyr Val Ser Ile Pro Glu Val Gln Met Glu Thr Phe Lys Thr
          100          105          110
Met Ile Glu His Ser Cys Glu Leu Val Glu Phe Ala Pro Asn Glu Phe
          115          120          125
Val Pro Gly Thr Ile Val Arg Val Ile Ser Gly Gln Leu Gln Gly Leu
          130          135          140
Glu Ala Glu Leu Val Asp Cys Gln Gly Asn Asn Lys Leu Leu Leu Arg
145          150          155          160
Val Glu Gly Leu Gly Cys Ala Leu Val Thr Val Ser Thr Asp Cys Val
          165          170          175
Ala Ser Lys Glu Glu
          180

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&lt;210&gt; 5345

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5345

```

Lys Glu Ile Glu Met Ser Glu Val Arg His Val Leu Gly Ile Ser Gly
1           5           10           15
Gly Lys Asp Ser Ala Ala Leu Ala Ile Tyr Leu Lys Asp Lys Tyr Pro
          20           25           30
Asn Leu His Ile Glu Tyr Tyr Ser Ser Asp Thr Lys Cys Glu Leu Asp
          35           40           45
Glu Thr Ile Gln Phe Ile Asp Arg Leu Arg Ser Tyr Leu Gly His Ile
          50           55           60
Thr Thr Leu Ile Ala Ala Glu Gly Ser Pro Glu Pro Thr Pro Phe Asp
65           70           75           80
His Phe Leu Lys Val Ser Gly Gly Tyr Leu Pro Ser Val Gln Ala Arg
          85           90           95
Trp Cys Thr Gln Lys Met Lys Leu Ala Glu Phe Glu Lys Phe Val Gly
          100          105          110
Asp Thr Pro Thr Val Ser Tyr Val Gly Ile Arg Gly Asp Glu Asp Arg
          115          120          125
Glu Gly Tyr Val Ser Thr Lys Pro Asn Ile Gln Ala Ile Phe Pro Phe
          130          135          140
Arg Lys Asn Ile Trp Ser Met Asp Val Ile His Glu Val Leu His Asp
145          150          155          160
Lys Asn Ile Glu Asn Phe Ala Glu Cys Tyr Arg Asn Val Ala Asp Asp
          165          170          175
Glu Thr Tyr Gln Thr Val Glu Ala Ala Leu Thr Ser Lys Leu Thr Lys
          180          185          190

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His Phe Tyr Tyr Ser Lys Lys Leu Asn Met Leu Leu Asp Ala Asp Val  
 195 200 205  
 Ile Thr Phe Asn His Ala Val Phe Ser Phe Leu Lys Gln Tyr Thr Asp  
 210 215 220  
 Tyr Pro Val Gly Lys Leu Asp Tyr Phe Pro Leu Ile Asp Asn Asp Glu  
 225 230 235 240  
 Val Leu Val Arg Glu Glu Ile Phe Arg Ile Leu Glu Asp Ser Gly Val  
 245 250 255  
 Gly Ile Pro Ala Tyr Tyr Asn Leu Ile Asp Phe Glu Val Asp Gly Lys  
 260 265 270  
 Lys Gly Gln Tyr Cys Arg Ser Arg Ser Gly Cys Tyr Phe Cys Phe Phe  
 275 280 285  
 Gln Gln Lys Ile Glu Trp Ile Trp Leu Tyr Glu Gln His Pro Asp Leu  
 290 295 300  
 Phe Lys Lys Ala Met Glu Tyr Glu Lys Asp Gly Tyr Thr Trp Ile Gln  
 305 310 315 320  
 Gly Glu Pro Leu Ser Glu Leu Ile Arg Ser Gly Val Val Cys Gly Lys  
 325 330 335  
 Ser Ser Leu Thr Arg  
 340

<210> 5346

<211> 393

<212> PRT

<213> B.fragilis

<400> 5346

Met Gly Asn Glu Lys Lys Lys Val Val Lys Ile Val Pro Thr Tyr Phe  
 1 5 10 15  
 Glu His Glu Thr Arg Asp Leu Lys Glu Ile Ser Val Leu Asn Ser Leu  
 20 25 30  
 Gly Cys Asn Val Ile Val Val Ala Lys Gly Asp Asn Ala Val Ile Ile  
 35 40 45  
 Glu Glu Ser Cys Tyr Ile Leu His Arg Leu Cys Ser Arg Pro Leu Met  
 50 55 60  
 Pro Phe Val Ser Asn Leu Phe Leu Asn Arg Leu Phe Ser Leu Tyr Ile  
 65 70 75 80  
 Trp Val Arg Tyr Val Arg Lys Leu His Gly Glu Leu Leu Ser Cys His  
 85 90 95  
 Asp Leu Phe Cys Leu Cys Ile Gly Trp Leu Ser Thr Leu Gly Leu Arg  
 100 105 110  
 Lys Lys Pro Phe Leu Val Tyr Asp Ser His Glu Phe Glu Tyr Gly Arg  
 115 120 125  
 Asn Cys Lys Arg Asn Phe Val Ser Lys Leu Phe Ile Lys Thr Leu Glu  
 130 135 140  
 Arg Phe Leu Cys Lys Lys Thr Ala Leu Asn Ile Val Val Asn Glu Ser  
 145 150 155 160  
 Ile Ala Asp Ala Val Gln Thr Leu His Gly Leu Asn Asn Arg Pro Leu  
 165 170 175  
 Val Val Arg Asn Val Pro Leu Tyr Trp Asn Ile Asp Val Asn Lys Cys  
 180 185 190  
 Val Leu Arg Arg Lys Lys Ile Cys Glu Ala Tyr Gly Ile Pro Ile Asp  
 195 200 205  
 Ser Phe Ile Ile Met Tyr His Gly Val Ile Ala Ala Gly Arg Gly Ile  
 210 215 220  
 Glu Asn Ala Ile Tyr Ala Val Glu Asn Val Glu Asn Thr Cys Leu Leu  
 225 230 235 240  
 Ile Leu Gly Asn Gly Glu Lys Ser Tyr Ile Ala Leu Leu Glu Lys Met  
 245 250 255

```

Ile Ser Ser Leu Arg Leu Glu Gln Lys Val Phe Phe His Thr Ala Val
      260      265      270
Glu His Ser Ile Leu Trp Glu Tyr Ile Gly Ser Val Asp Val Glu Leu
      275      280      285
Ser Val Ile Leu Asn Thr Cys Ile Ser Tyr Tyr Tyr Ala Leu Pro Asn
      290      295      300
Lys Ile Phe Glu Ser Ile Gln Ala Met Ile Pro Leu Ile Val Ser Asp
305      310      315      320
Phe Pro Glu Met Glu Arg Val Val Lys Met Tyr Asp Ile Gly Val Cys
      325      330      335
Cys Lys Ser Asp Asp Val Asn Ser Leu Val Glu Ala Ile Arg Leu Met
      340      345      350
Asn Lys Asp Lys Val Leu Tyr Ser Arg Phe Lys Ala Asn Met Gln Asp
      355      360      365
Ala Lys Lys Glu Leu Cys Trp Glu Asn Glu Lys Glu Ile Leu Glu Gly
      370      375      380
Ala Tyr Arg Ser Ile Leu Met Asp Ile
385      390

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&lt;210&gt; 5347

&lt;211&gt; 606

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5347

```

Arg Trp Ser Asp Gln Asp Tyr Ser Arg Met Met Glu Lys Glu Lys Ile
1      5      10      15
Ser Leu Leu Gln Arg Phe Ile Ile Trp Arg Glu Asn Lys Ile Lys Glu
      20      25      30
Lys Gln Phe Ile Leu Ile Leu Ser Phe Leu Val Gly Ile Phe Thr Ala
      35      40      45
Ile Ala Ala Leu Leu Leu Lys Phe Phe Ile His Thr Ile Gln Asn Phe
      50      55      60
Leu Thr Asp Asn Phe Asn Thr Thr Glu Ala Asn Tyr Leu Tyr Leu Val
65      70      75      80
Tyr Pro Val Val Gly Ile Phe Leu Ala Gly Trp Phe Val Arg Asn Ile
      85      90      95
Val Lys Asp Asp Ile Ser His Gly Val Thr Lys Ile Leu Tyr Ala Ile
      100      105      110
Ser Arg Arg Gln Gly Arg Ile Lys Arg His Asn Ile Trp Ser Ser Thr
      115      120      125
Ile Ala Ser Ala Ile Thr Ile Gly Phe Gly Gly Ser Val Gly Ala Glu
      130      135      140
Ala Pro Ile Val Leu Thr Gly Ser Ala Ile Gly Ser Asn Leu Gly Ser
145      150      155      160
Met Phe Lys Met Glu His Arg Thr Leu Met Leu Leu Val Gly Cys Gly
      165      170      175
Ala Ala Gly Ala Ile Gly Gly Ile Phe Lys Ala Pro Ile Ala Gly Leu
      180      185      190
Val Phe Thr Leu Glu Val Leu Met Ile Asp Leu Thr Met Ser Ser Leu
      195      200      205
Leu Pro Leu Leu Ile Ser Ala Val Thr Ala Ala Thr Val Ser Tyr Ile
      210      215      220
Thr Thr Gly Gln Glu Ala Met Phe Lys Phe His Leu Asp Gln Pro Phe
225      230      235      240
Glu Leu Glu Arg Ile Pro Tyr Val Ile Leu Leu Gly Ile Phe Cys Gly
      245      250      255
Leu Val Ser Leu Tyr Phe Thr Arg Ala Met Asn Ser Val Glu Gly Val
      260      265      270

```



```

Phe Gly Lys Leu Ser Asn Pro Tyr Lys Lys Leu Ala Leu Gly Gly Val
  275                280                285
Met Leu Ser Val Leu Ile Phe Leu Phe Pro Pro Leu Tyr Gly Glu Gly
  290                295                300
Tyr Asp Thr Ile Glu Leu Leu Asn Gly Val Ser Asn Ala Asp Trp
  305                310                315                320
Asp Thr Val Leu Asn Asn Ser Leu Phe Tyr Gly Tyr Gly Asn Leu Leu
                325                330                335
Leu Val Tyr Leu Val Leu Ile Ile Leu Leu Lys Val Phe Ala Ser Ser
                340                345                350
Ala Thr Asn Gly Gly Gly Gly Cys Gly Gly Ile Phe Ala Pro Ser Leu
                355                360                365
Tyr Leu Gly Cys Ile Ala Gly Phe Val Phe Ser His Phe Ser Asn Asp
  370                375                380
Phe Asp Phe Thr Ser Thr Leu Pro Glu Lys Asn Phe Ala Leu Met Gly
  385                390                395                400
Met Ala Gly Val Met Ser Gly Val Met His Ala Pro Leu Thr Gly Val
                405                410                415
Phe Leu Ile Ala Glu Leu Thr Gly Gly Tyr Asp Leu Phe Leu Pro Leu
                420                425                430
Met Ile Val Ser Val Ser Ser Tyr Leu Thr Ile Ile Val Phe Glu Pro
  435                440                445
His Ser Ile Tyr Ser Met Arg Leu Ala Lys Lys Gly Gln Leu Leu Thr
  450                455                460
His His Lys Asp Lys Ala Val Leu Thr Leu Met Lys Val Glu Asn Val
  465                470                475                480
Val Glu Thr Asp Phe Val Ser Val Arg Pro Glu Met Asp Leu Gly Glu
                485                490                495
Leu Val Lys Ala Ile Ser Thr Ser His Arg Asn Met Phe Pro Val Thr
                500                505                510
Asp Lys Asp Gly Val Leu Leu Gly Val Val Leu Leu Asp Asp Ile Arg
  515                520                525
Asn Ile Met Phe Arg Gln Glu Leu Tyr His Arg Phe Thr Val Ser Lys
  530                535                540
Leu Met Thr Ser Val Pro Ala Arg Leu Tyr Asp Thr Asp Ser Met Glu
  545                550                555                560
Gln Val Met Gln Thr Phe Asp Asp Thr Lys Ala Trp Asn Leu Pro Val
                565                570                575
Val Asn Glu Glu Gly Lys Tyr Leu Gly Phe Val Ser Lys Ser Lys Ile
                580                585                590
Phe Asn Ser Tyr Arg Gln Val Leu Val His Phe Ser Glu Asp
  595                600                605

```

&lt;210&gt; 5348

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5348

```

Asn His Gly Glu Lys Ser Gly Gly Ser Glu Cys Tyr Ser Cys Gly Tyr
  1                5                10                15
Ser Ser Leu Ser Leu Asp Ala Cys Leu Ile Lys Ala Asn Asp Ser Asp
  20                25                30
Pro Val Tyr Leu Ser Thr Asn Gly Val Lys Ser His Ile Lys Ser Val
  35                40                45
Glu Asp Phe Asn Lys Val Gly Phe Asp Trp Asp Lys Ile Lys Val Met
  50                55                60
Ser Pro Ala Glu Val Asp Ala Ile Pro Thr Ala Pro Glu Tyr Glu Ile
  65                70                75                80

```

Ala Asn Trp

&lt;210&gt; 5349

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5349

```

Tyr Lys Asn Glu Ile Ile Met Glu Lys Ile Ile Gly Leu Ile Asn Ala
1          5          10          15
Pro Phe Thr Pro Phe Tyr Glu Asn Gly Glu Val Asn Tyr Glu Pro Ile
          20          25          30
Glu Ala Tyr Ala Lys Met Leu Val Lys Asn Gly Leu Gln Gly Val Phe
          35          40          45
Ile Asn Gly Ser Ser Gly Glu Gly Tyr Met Leu Thr Asp Glu Glu Arg
          50          55          60
Met Lys Leu Ala Glu Arg Trp Val Glu Val Ser Pro Lys Gly Phe Lys
65          70          75          80
Val Ile Val His Val Gly Ser Cys Cys Val Lys Ser Ser Arg Lys Leu
          85          90          95
Ala Glu His Ala Gln Lys Ile Gly Ala Trp Gly Ile Gly Ala Met Ala
          100          105          110
Pro Pro Phe Pro Lys Val Gly Arg Val Glu Glu Leu Val Lys Tyr Cys
          115          120          125
Glu Glu Ile Ala Cys Gly Ala Pro Asp Leu Pro Phe Tyr Tyr Tyr His
          130          135          140
Ile Pro Ala Phe Asn Gly Ala Phe Leu Ser Met Val Ala Phe Leu Glu
145          150          155          160
Ala Val Asp Gly Arg Ile Pro Asn Phe Ala Gly Ile Lys Tyr Thr Phe
          165          170          175
Glu Ser Met Tyr Glu Tyr Asn Gln Cys Arg Leu Tyr Lys Gly Gly Lys
          180          185          190
Phe Asp Met Leu His Gly Gln Asp Glu Thr Ile Leu Pro Cys Leu Ala
          195          200          205
Met Gly Gly Ala Gln Gly Gly Ile Gly Gly Thr Thr Asn Tyr Asn Gly
210          215          220
Val Asn Leu Val Gly Ile Ile Glu Ala Trp Lys Ala Gly Asp Leu Glu
225          230          235          240
Lys Ala Arg Glu Leu Gln Asn Phe Ser Gln Glu Val Ile Asn Val Ile
          245          250          255
Cys His Phe Arg Gly Asn Ile Val Gly Gly Lys Arg Ile Met Lys Leu
          260          265          270
Ile Gly Leu Asp Leu Gly Lys Asn Arg Thr Pro Phe Gln Asn Met Thr
          275          280          285
Asp Asp Glu Glu Val Arg Met Lys Ala Glu Leu Glu Ala Ile His Phe
          290          295          300
Phe Asp Arg Cys Asn Lys Phe
305          310

```

&lt;210&gt; 5350

&lt;211&gt; 370

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5350

```

Tyr Lys Met Glu Glu Tyr Lys Arg Cys Thr Arg Cys Val Met Asp Asn
1          5          10          15
Lys Ser Asp Glu Thr Ile Thr Phe Asp Lys His Gly Arg Cys Asn Tyr

```



50	55	60
Cys Leu Cys Tyr Ile Ser Phe Ala Tyr Ile Gly Ser Ile Leu Leu Asn		
65	70	75
Ile Met His Phe Glu Ala Glu Asp Tyr Leu Gly Met Tyr Ala Arg Pro		80
	85	90
Asp Ile Phe Phe Leu Val Trp Val Phe Thr Leu Leu Gly Leu Leu Phe		95
	100	105
Leu Leu Leu Gly Phe Ala Ile Ala Asn Ile Val Phe Lys Asn Ile Cys		110
	115	120
Tyr Pro Arg Lys Asn Arg Asp Leu Gln Leu Ile Lys Val Ser Ile Ser		125
	130	135
Cys Phe Asp Asn Ser Asn Lys Asn Phe Phe Val Ile Leu Phe Leu Phe		140
145	150	155
Ile Leu Ser Phe Phe Val Leu Leu Val Tyr Arg Asn Ala Ile Gly Gly		160
	165	170
Phe Pro Leu Glu Ser Val Phe Ser Ala Asp Asn Gly Thr Ala Leu Ala		175
	180	185
Phe Leu Arg Ser Glu Ala Thr Asn Asn Phe Ser Gly Lys Phe Tyr Arg		190
	195	200
Tyr Val Met Phe Met Glu Thr Leu Pro Leu Phe Leu Phe Ile Val Val		205
	210	215
Ser Phe Ile Lys Ser Cys Lys Lys Lys Lys Trp Lys Tyr Leu Tyr Ile		220
225	230	235
Ala Leu Phe Leu Tyr Asn Leu Phe Tyr Ser Leu Ser Thr Ile Gln Lys		240
	245	250
Ala Pro Ile Leu Lys Phe Leu Leu Leu Cys Cys Ile Ile Phe Phe Tyr		255
	260	265
Lys Asn Gly Phe Ile Asn Lys Lys Ile Ile Leu Lys Leu Val Val Phe		270
	275	280
Ser Cys Gly Leu Val Leu Val Met Tyr Met Cys Phe Met Gly Leu Glu		285
	290	295
Asp Ala Pro Ile Glu Val Ile Ile Glu Gly Ala Leu His Arg Val Phe		300
305	310	315
Ile Gly Ala Ile His Pro Phe Tyr Trp Tyr Ile Lys Tyr Ala Glu Glu		320
	325	330
Phe Gly Phe Leu Tyr Gly Thr Ser Phe Pro Asn Pro Ala Gly Ile Phe		335
	340	345
Pro Phe Glu Ser Phe Arg Leu Thr Val Glu Ile Met Asn Tyr Ala Lys		350
	355	360
Gly Asp Leu Leu Gly Asp Leu Val Gly Ser Met Pro Thr Val Tyr Ile		365
	370	375
Gly Glu Met Tyr Ile Asn Phe Gly Leu Tyr Gly Leu Ala Leu Ala Ser		380
385	390	395
Leu Met Phe Gly Phe Ile Leu Gln Thr Leu Asp Ile Leu Phe Val Arg		400
	405	410
Tyr Leu Leu Val Asn Lys Ser Val Leu Val Ser Ser Leu Tyr Ile Tyr		415
	420	425
Met Ile Tyr Tyr Phe Ser Gln Phe Thr Glu Thr Gly Ile Ser Gly Ile		430
	435	440
Ile Ile Asp Thr Asp Leu Tyr Ile Val Leu Phe Ile Ser Phe Ile Tyr		445
	450	455
Cys Leu Ile Asn Arg Tyr Asn Leu Arg Arg Tyr Gly Lys Lys Lys Gly		460
465	470	475
Leu Pro Cys Tyr Lys Cys Thr Ser Cys Arg		480
	485	490

&lt;210&gt; 5352

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5352

```

Tyr Arg Leu Cys Lys Thr Phe Thr Gln Thr Val Tyr Ala Leu Ala Asp
1          5          10          15
Ile Met Thr Leu Phe Glu Leu Phe Leu Asn Lys Leu Leu Tyr Arg Phe
          20          25          30
Tyr Arg Ser Val Leu Ser Ser Phe Ser Ile Tyr Ser Leu Val Phe Ile
          35          40          45
His His Ile Thr Arg Tyr Ala Ala His Lys Thr Gly Lys Tyr Leu Arg
          50          55          60
Lys Gln Ile Ser Lys Gln Leu Arg Val Lys Phe Lys Gln Thr Ser Lys
65          70          75          80
Gly Asn Asp Phe Phe Ser Glu Trp Leu Pro Gly Phe Val Leu Leu Val
          85          90          95
Cys Phe Asp Lys Val Leu Gly Asn Ser Tyr Leu Leu Asn Ser Trp Arg
          100          105          110
Tyr Gly Val Ile Val Gly Ser Asn His Arg Arg Arg His
          115          120          125

```

&lt;210&gt; 5353

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5353

```

Ser Met Asp Cys Ile Met Gln Asn Asn Ile Phe Asp Tyr Ala Ala Leu
1          5          10          15
Leu Arg Gln Val Lys Ala Arg Val Ala Leu Ala Gln Lys Lys Ala Ile
          20          25          30
Tyr Ala Ala Asn Gly Glu Met Leu Ser Met Tyr Trp Asp Ile Gly Lys
          35          40          45
Leu Leu Ser Glu Ser Gln Thr Gln Ile Gly Trp Ala Thr Ile Arg Trp
          50          55          60
Ser Ser Cys Pro Val Ile
65          70

```

&lt;210&gt; 5354

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5354

```

Lys Arg Arg Cys Arg Asn Met Ala Leu Phe Tyr Lys Ala Val Lys Ser
1          5          10          15
Thr Met Ala Thr Lys Ser Gly Asp Lys Lys Trp His Leu Asn Leu Val
          20          25          30
Lys Val Gly Lys Val Val Ser Thr Gln Gln Leu Ala Glu Met Ile Ala
          35          40          45
Glu Lys Ser Ser Leu Thr Pro Gly Asp Val His Asn Val Val Arg Asn
          50          55          60
Leu Met Thr Ala Met Arg Ser Ala Leu Leu Asp Ser Lys Thr Val Arg
65          70          75          80
Leu Asp Gly Leu Gly Thr Phe Thr Met Lys Ala Arg Thr Arg Gly Arg
          85          90          95
Gly Val Asp Lys Glu Glu Glu Val Asn Pro Asn Gln Val Ala Ala Leu
          100          105          110
Leu Cys His Phe Thr Pro Glu Tyr Thr Arg Pro Ala Ala Ile Gly Thr
          115          120          125

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Thr Arg Ala Leu Phe Gln Gly Val Glu Phe Gln Lys Ala Ser Gly Ile
  130          135          140
Gly Ala Ser Gly Asn Asn Gly Ser Gly Gly Gly Asp Gly Asp Ile Val
 145          150          155          160
Asp Asp Pro Thr Ala
          165

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<210> 5355
<211> 416
<212> PRT
<213> B.fragilis

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<400> 5355
Pro Leu Ile Phe Ile Met Lys Asn Ser Lys Ile Tyr Pro Trp Ile Val
 1          5          10          15
Val Ala Leu Leu Trp Gly Val Ala Leu Leu Asn Tyr Met Asp Arg Gln
 20          25          30
Met Leu Ser Thr Met Lys Asp Ala Met Gln Val Asp Ile Val Glu Leu
 35          40          45
Gln Ser Ala Thr Asn Phe Gly Arg Leu Met Ala Val Phe Leu Trp Ile
 50          55          60
Tyr Gly Leu Met Ser Pro Ile Ser Gly Met Ile Ala Asp Arg Leu Asn
 65          70          75          80
Arg Lys Trp Leu Ile Val Gly Ser Leu Phe Val Trp Ser Phe Val Thr
 85          90          95
Tyr Leu Met Gly Ile Ala Glu Thr Phe Asn Gln Val Phe Trp Leu Arg
 100          105          110
Ala Leu Met Gly Val Ser Glu Ala Leu Tyr Ile Pro Ala Gly Leu Ser
 115          120          125
Leu Ile Ala Asp Tyr His Thr Glu Lys Ser Arg Ser Leu Ala Val Gly
 130          135          140
Ile His Met Thr Gly Leu Tyr Thr Gly Gln Ala Ile Gly Gly Phe Gly
 145          150          155          160
Ala Thr Val Ala Ala Ala Phe Ser Trp His Thr Thr Phe His Trp Phe
 165          170          175
Gly Ile Val Gly Ile Ala Tyr Ala Leu Val Leu Ile Ile Phe Leu Arg
 180          185          190
Glu Asn Glu Glu His Ala Arg Gly Ile Arg Ala Met His Thr Asp Lys
 195          200          205
Ser Lys Lys Ile Pro Leu Phe Lys Gly Val Thr Leu Leu Phe Gly Asn
 210          215          220
Ile Ala Phe Trp Ile Ile Leu Phe Tyr Phe Ala Ala Pro Ser Leu Pro
 225          230          235          240
Gly Trp Ala Thr Lys Asn Trp Leu Pro Thr Leu Tyr Ala Glu Asn Leu
 245          250          255
Asp Ile Pro Met Ala Glu Ala Gly Pro Ile Ser Thr Ile Thr Ile Ala
 260          265          270
Val Ser Ser Phe Ile Gly Val Ile Leu Gly Gly Leu Leu Ser Asp Arg
 275          280          285
Trp Val Cys Lys Asp Ile Arg Gly Arg Ile Tyr Thr Gly Ala Ile Gly
 290          295          300
Leu Gly Leu Thr Ile Pro Ala Leu Leu Leu Leu Gly Leu Gly Asn Gly
 305          310          315          320
Phe Ile Ser Ile Val Gly Ala Gly Phe Leu Phe Gly Val Gly Phe Gly
 325          330          335
Met Phe Asp Ala Asn Asn Met Pro Ile Leu Cys Gln Phe Val Ser Ala
 340          345          350
Lys Tyr Arg Ala Thr Ala Tyr Gly Ile Met Asn Met Thr Gly Val Phe
 355          360          365

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Ala Gly Ala Val Val Thr Ser Leu Phe Gly Lys Trp Thr Asp Gly Gly  
 370 375 380  
 Asn Leu Gly Leu Gly Phe Ala Ile Leu Gly Gly Ile Val Leu Leu Ala  
 385 390 395 400  
 Leu Gly Met Gln Leu Cys Phe Leu Arg Pro His Thr Asp Asn Met Glu  
 405 410 415

<210> 5356  
 <211> 227  
 <212> PRT  
 <213> B.fragilis

<400> 5356  
 Phe Lys Tyr Arg Arg Phe Asn Leu Pro Val Ser Ile Cys Lys Tyr His  
 1 5 10 15  
 Lys Tyr Gly Leu Phe Ile Pro Glu Ile Ser Val Ser Leu Tyr Arg Thr  
 20 25 30  
 Ile Thr Ile Ile Ile Met Gln Asp Ile Ile Asn Gly Arg Cys Gly Trp  
 35 40 45  
 Cys Gly Ser Asp Glu Leu Tyr Val Lys Tyr His Asp Gln Glu Trp Gly  
 50 55 60  
 Lys Leu Val Thr Asp Asp Lys Thr Leu Phe Glu Phe Leu Val Leu Glu  
 65 70 75 80  
 Ser Ala Gln Ala Gly Leu Ser Trp Ile Thr Ile Leu Lys Lys Arg Glu  
 85 90 95  
 Gly Tyr Arg Lys Ala Phe Cys Asn Phe Asp Ala Glu Ser Val Ala Gln  
 100 105 110  
 Met Thr Asp Glu Asp Val Glu Arg Leu Met His Phe Asp Gly Ile Val  
 115 120 125  
 Lys Asn Arg Leu Lys Ile Lys Ser Thr Ile Thr Asn Ala Arg Ser Phe  
 130 135 140  
 Leu Ala Val Gln Lys Glu Phe Gly Ser Phe Tyr Asp Tyr Thr Leu Ser  
 145 150 155 160  
 Phe Phe Pro Asp Arg Lys Pro Ile Val Asn Thr Phe Gln Ser Leu Ser  
 165 170 175  
 Glu Ile Pro Val Ser Ser Pro Glu Ser Asp Ala Met Ser Lys Asp Met  
 180 185 190  
 Lys Lys Arg Gly Phe Lys Phe Phe Gly Thr Thr Ile Cys Tyr Ala His  
 195 200 205  
 Leu Gln Ala Ser Gly Phe Met Asn Asp His Leu Val Asp Cys Ile Cys  
 210 215 220  
 Arg Lys Arg  
 225

<210> 5357  
 <211> 73  
 <212> PRT  
 <213> B.fragilis

<400> 5357  
 His Pro Cys Arg Thr Gly Met Gly Arg Gly Ile Val Pro Leu Asn Gln  
 1 5 10 15  
 Ser Leu Asn Glu Lys Ala Val Val Ile Thr Asp Phe Thr Asp Glu Asn  
 20 25 30  
 Gly Ile Asp Arg Met Lys Glu Gln Ile Gln Glu Lys Tyr Asn Arg Ile  
 35 40 45  
 Lys Ala Asp Val Arg Gln Ile Val Ala Asp Glu Leu Gln Arg Ile Gln  
 50 55 60  
 Asn Asp Pro Ala Leu Ala His Leu Ile

65

70

<210> 5358  
 <211> 209  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5358

Asn	Asp	Ile	Arg	Cys	Lys	Ala	Asn	Asn	Arg	Ile	Ser	Lys	Leu	Asp	Arg
1				5					10					15	
Lys	Val	Phe	His	Tyr	Pro	Gly	Val	Pro	Gln	Leu	Tyr	Pro	Phe	Val	Asn
			20					25					30		
Asn	Ser	Ile	Asn	Lys	Ser	Trp	Tyr	Ala	Leu	Arg	Ile	Thr	Tyr	Ser	Arg
		35					40					45			
Glu	Leu	Ala	Phe	Lys	Glu	Tyr	Leu	Asp	Ser	Arg	Gly	Val	Arg	Asn	Phe
	50					55					60				
Leu	Pro	Met	Arg	Tyr	Glu	Tyr	Val	Phe	Arg	Gly	Glu	Arg	Lys	Ile	Arg
65					70				75					80	
Lys	Leu	Val	Pro	Val	Val	His	Asn	Leu	Val	Phe	Val	Tyr	Ala	Thr	Arg
				85					90					95	
Ser	Glu	Val	Asp	Glu	Met	Lys	Ser	Thr	Val	Gly	Ala	Ser	Leu	Pro	Ile
			100					105						110	
Arg	Tyr	Ile	Met	Asp	Arg	Glu	Thr	Arg	Gln	Pro	Ile	Thr	Ile	Pro	Glu
		115					120						125		
Val	Gln	Met	Arg	Ser	Phe	Ile	Ala	Val	Ala	Gly	Asn	Tyr	Asp	Glu	Gln
	130					135					140				
Val	Val	Tyr	Leu	Asp	Pro	Ser	Val	Val	Ser	Met	Lys	Arg	Gly	Asp	Arg
145					150					155				160	
Val	Arg	Val	Thr	Gly	Gly	Ile	Phe	Glu	Gly	Val	Glu	Gly	Glu	Phe	Val
				165					170					175	
Arg	Ile	Lys	Gly	Asp	Arg	Arg	Val	Val	Val	Ser	Ile	Gln	Gly	Val	Met
			180					185					190		
Ala	Val	Ala	Thr	Ala	Phe	Ile	His	Pro	Ser	Leu	Ile	Glu	Leu	Ile	Lys
		195					200					205			

Asn

<210> 5359  
 <211> 411  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5359

Asn	Arg	Gly	Arg	Asn	Lys	Asn	Leu	Tyr	Pro	Leu	Gly	His	Ile	Leu	Leu
1				5					10					15	
Ile	Leu	Ser	Asp	His	Ile	His	His	Ser	Pro	Asp	Ile	Leu	Ile	Cys	Gln
			20					25					30		
Cys	Arg	Ser	Arg	Arg	Gln	Thr	Gln	Ala	Asp	Ile	Glu	Gln	Pro	Leu	Thr
		35					40					45			
Arg	Thr	Ile	Pro	Ile	Glu	Arg	Ser	Ile	Arg	Glu	His	Arg	Leu	Lys	Met
	50					55					60				
His	Arg	Leu	Pro	Gln	Arg	Thr	Cys	Leu	Tyr	Val	Leu	Gly	Val	Gln	Leu
65				70					75					80	
Gln	Thr	Asp	Ile	Leu	Thr	Thr	Leu	Thr	Arg	Lys	Leu	Arg	Ile	Asn	Gln
				85				90						95	
Asn	Thr	Ser	Lys	Pro	Lys	Val	Gly	Ser	Lys	Pro	Arg	Ile	Arg	Val	Leu
			100					105					110		
His	Asp	Arg	Asn	Thr	Arg	His	Ile	Phe	Gln	Gln	Ile	Asn	Ile	Gln	Arg
			115				120						125		



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Val Asn Gly Thr Ala Thr Gly Asn Met Phe Ile Glu Asp Lys His Leu
130 135 140
Pro Thr Thr Asp Thr Arg Thr Asp Val Ala His Thr Val Ile Val Thr
145 150 155 160
Asp Met Gly Met Leu Val Met Arg Ser Gly Ile Thr Ser Leu Arg Ser
165 170 175
Val Glu Leu Cys Leu Ser Gly Leu Leu Phe Arg Thr Thr Asp Gln Ser
180 185 190
Thr Ser Thr Gly Ser Arg Asp His Leu Val Ala Ile Glu Arg Glu Ser
195 200 205
Gly Gln Phe Thr Glu Cys Ala Thr Leu Pro Ser Val Gln Phe Arg Thr
210 215 220
Gln Ser Leu Arg Gly Ile Leu Gln Tyr Gly Asp Thr Ile Thr Thr Arg
225 230 235 240
Asn Ile His Asp Leu Val His Leu Gly Arg His Thr Val Lys Val Asp
245 250 255
Arg Asn Asn Ser Leu Arg Glu Leu Thr Arg Leu Ala Gln Thr Val Leu
260 265 270
Tyr Ser Leu Leu Glu Gln Tyr Arg Ile His Ile Pro Gly Ile Leu Leu
275 280 285
Thr Val His Lys Asn Arg Phe Gly Leu Gln Ile Gly Asn Arg Ile Gly
290 295 300
Arg Gly Gly Lys Ser Lys Ala Leu Ala Asp His Phe Ile Thr Gly Leu
305 310 315 320
His Ile Gln Lys Asn Gln Ala Gln Val Lys Cys Ser Arg Ser Ser Thr
325 330 335
Gln Ser His Tyr Thr Thr Val Phe Met Gln Ile Phe Gly Gln Arg Leu
340 345 350
Leu Lys Ser Ile His Val Arg Ser Gln Arg Asp Asn Pro Val Arg Ile
355 360 365
Lys Ser Leu Phe Tyr Lys Val Leu Leu Thr Ala Thr His Val Ser Lys
370 375 380
Arg Lys Pro Asp Ser Phe Val His Asn Lys Leu Phe Ile Ile Ile Ser
385 390 395 400
Phe Ser Tyr Val Ile Gly Asn Gln Glu Glu Lys
405 410

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&lt;210&gt; 5360

&lt;211&gt; 771

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5360

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Asn Gln Leu Arg Gln Leu Leu Tyr Ile Ile Tyr Asn Lys Val Cys Pro
1 5 10 15
Met Leu Lys Ser Asp Val Ile Trp Pro Asn Ser Arg Arg Phe Lys Ser
20 25 30
Arg Thr Glu Trp Glu Pro Leu Gly Phe Phe Ser Glu Ala Leu Cys Asn
35 40 45
Ser Thr Gln Phe Asp Leu Lys Leu Gly Phe Phe Ser Ser Ser Ala Ile
50 55 60
Asn Val Leu Ala Asp Gly Phe Ala Thr Phe Leu Tyr Asn Gly Gly Lys
65 70 75 80
Met Arg Met Ile Ile Asn Asp Ile Leu Ser Thr Glu Asp Lys Arg Ala
85 90 95
Ile Ile Val Ala Asp Ser Cys Asp Asp Val Asp Tyr Phe Asn Leu Gln
100 105 110
Asp Leu Gly Gly Met Ser Asp Thr Leu Ser Lys Arg Asn Gln His Phe
115 120 125

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Phe	Glu	Cys	Leu	Ala	Trp	Leu	Ile	Arg	His	Asn	Arg	Ile	Glu	Ile	Lys
130						135					140				
Val	Val	Val	Pro	Lys	Ala	Gly	Glu	Gly	Ile	Ala	His	Ser	Lys	Cys	Gly
145					150					155					160
Val	Phe	Phe	Asp	Gly	Leu	Asn	Arg	Val	Ala	Phe	Asp	Gly	Ser	Cys	Asn
				165					170					175	
Phe	Ser	Lys	Thr	Ala	Leu	Ile	Ala	Asn	Ile	Glu	Ser	Ile	Thr	Ala	Phe
			180					185					190		
Cys	Asp	Trp	Asp	Gly	Gln	Ser	Asp	Val	Cys	Arg	Ile	Lys	Asp	Val	Val
		195					200					205			
Asp	Asp	Phe	Glu	Arg	Thr	Phe	Ser	Gly	Asn	Asp	Glu	Ser	Val	Thr	Tyr
	210					215					220				
Leu	Asn	Thr	Asp	His	Ile	Arg	Ile	His	Ile	Thr	Asp	Thr	Tyr	Lys	Asn
225					230					235					240
Lys	Asp	Ile	Gln	Glu	Leu	Leu	Ala	Asp	Glu	Ala	Gln	Leu	Ile	Asn	Asp
				245					250					255	
Arg	Leu	Glu	Asn	Asp	Leu	Pro	Lys	Thr	Val	Thr	Ala	Phe	Leu	Gly	Arg
			260					265					270		
Ala	Lys	Asn	Lys	Val	Lys	Ser	Ile	Ile	Glu	Arg	Ile	His	Gln	Asn	Glu
		275					280					285			
Ile	Gln	Arg	Gly	Lys	Glu	Ala	Pro	Arg	Phe	Pro	Tyr	Ser	Gln	Gly	
290					295					300					
Pro	Arg	Glu	Tyr	Gln	Gln	Leu	Ala	Phe	Glu	Asn	Trp	Lys	Ala	Asn	Lys
305				310						315					320
Gln	Lys	Gly	Leu	Phe	Ala	Met	Ala	Thr	Gly	Thr	Gly	Lys	Thr	Ile	Thr
				325					330					335	
Ser	Leu	Asn	Cys	Leu	Leu	Glu	Ile	Tyr	Lys	Arg	Cys	Gly	Tyr	Tyr	Lys
		340						345				350			
Ala	Ile	Ile	Leu	Val	Pro	Thr	Ile	Thr	Leu	Val	Gly	Gln	Trp	Glu	Glu
		355					360					365			
Glu	Cys	Lys	Lys	Phe	Asn	Phe	Lys	Asn	Val	Ile	Arg	Val	Cys	Ser	Lys
370					375					380					
Asn	Ser	Lys	Trp	Ala	Glu	Gln	Ile	Glu	Thr	Ile	Thr	Leu	Ser	Glu	Arg
385				390						395					400
Leu	Lys	Gly	Ser	Asp	Asn	Asn	Leu	Ser	Tyr	Ile	Ile	Ile	Ser	Thr	Tyr
				405					410					415	
Ala	Ser	Phe	Ile	Lys	Asp	Lys	Val	Phe	Lys	Ser	Leu	Ser	Val	Phe	Pro
		420						425					430		
Lys	Thr	Lys	Leu	Leu	Leu	Ile	Ala	Asp	Glu	Ala	His	Asn	Met	Gly	Ser
		435					440					445			
Arg	Arg	Met	Leu	Asn	Ile	Leu	Asp	Gly	Ile	Pro	Tyr	Leu	Arg	Arg	Ile
	450					455					460				
Gly	Leu	Ser	Ala	Thr	Pro	Glu	Arg	Gln	Phe	Glu	Glu	Glu	Ala	Asn	Gln
465					470					475					480
Thr	Leu	Tyr	His	Phe	Phe	Gly	Ala	Glu	Asn	Gly	Phe	Thr	Tyr	Glu	Tyr
				485					490					495	
Ser	Met	Gln	Glu	Ala	Ile	Asp	Lys	Gly	Val	Leu	Cys	Arg	Tyr	Tyr	Tyr
		500						505					510		
Tyr	Pro	His	Val	Val	Arg	Leu	Thr	Met	Ser	Glu	Met	Glu	Glu	Tyr	Met
		515					520					525			
Arg	Ile	Ser	Val	Gln	Leu	Ala	Lys	Phe	Phe	Asn	Asn	Asn	His	Phe	Ala
	530					535						540			
Asp	Ser	Asn	Glu	Ile	Leu	Thr	Ala	Leu	Leu	Leu	Lys	Arg	Lys	Arg	Ile
545					550					555					560
Ile	His	Lys	Ala	Glu	Asn	Lys	Leu	Glu	Val	Phe	Arg	Asn	Ile	Leu	Glu
				565					570					575	
Gln	Arg	Phe	Gln	Glu	Lys	Gly	Asn	Leu	Lys	Tyr	Thr	Leu	Val	Tyr	Val
				580				585					590		
Pro	Glu	Gly	Leu	Lys	Pro	Asp	Thr	Ala	Asp	Ala	Asp	Val	Tyr	Asp	Asp

595	600	605
Thr Asp Gln Leu Gln Asp Asp Tyr Ser Glu Lys Leu Ile Asn Glu		
610	615	620
Tyr Thr Ala Val Val Ser Gly Ile Asp Ser Lys Val Thr Val Arg Lys		
625	630	635
Phe Thr Ser Gly Ile Lys Glu Arg Glu Glu Leu Leu Lys Gly Phe Ala		
645	650	655
Asp Gly Asp Ile Glu Val Leu Thr Ser Met Lys Cys Leu Asp Glu Gly		
660	665	670
Val Asp Val Pro Arg Ser Glu Leu Ala Ile Phe Cys Ala Ser Thr Gly		
675	680	685
Asn Pro Arg Gln Phe Ile Gln Arg Arg Gly Arg Ile Leu Arg Lys His		
690	695	700
Pro Asp Lys His Met Ala Val Ile His Asp Leu Val Val Ala Pro Glu		
705	710	715
Val Asn Ile Gly Glu Gly Ser Tyr Ala Met Glu Arg Ser Leu Met Ala		
725	730	735
Thr Glu Leu Arg Arg Val Arg Asn Phe Ser Leu Leu Ser Glu Asn Ser		
740	745	750
Asp Asp Thr Ile Asn Glu Leu Glu Asp Ile Met Asn Tyr Tyr Asn Leu		
755	760	765
Ser Leu Phe		
770		

<210> 5361  
 <211> 92  
 <212> PRT  
 <213> B.fragilis

<400> 5361
Ile Lys Lys Arg Phe Leu Phe Cys Glu Ile Phe Cys Leu Leu Asn Ser
1 5 10 15
Ser Ile Val Leu Ser Ile Asn Ser Ile Ala Thr Gly Ala Cys Arg Lys
20 25 30
Ala Thr Arg Phe Ala Ala Lys Asp Ser Ser Asn Val Glu Gln Cys Thr
35 40 45
His Ile Thr Ala Phe Ser Val Gly Gly Arg Gly Thr Asn Phe Ser Phe
50 55 60
Asn Ser Val Ile Lys Ala Asn Val Pro Ser Glu Pro Ala Asn Asn Leu
65 70 75 80
Gln Arg Leu Lys Asp Ser Glu Gln Phe Leu Ser Lys
85 90

<210> 5362  
 <211> 198  
 <212> PRT  
 <213> B.fragilis

<400> 5362
Lys Ile Phe Phe Asn Lys Tyr Ser Met Gln Asp Tyr Phe Ala His Glu
1 5 10 15
Thr Ala Thr Val Asp Asp Gly Cys Arg Ile Gly Ala Gly Thr Lys Ile
20 25 30
Trp His Tyr Ser His Ile Met Thr Gly Cys Val Leu Gly Glu Arg Cys
35 40 45
Asn Ile Gly Gln Asn Val Val Ile Ser Pro Asp Val Val Leu Gly Asn
50 55 60
Asn Val Lys Val Gln Asn Asn Val Ser Val Tyr Thr Gly Val Thr Cys
65 70 75 80

Glu Asp Asp Val Phe Leu Gly Pro Ser Cys Val Phe Thr Asn Val Ile  
                   85                  90                  95  
 Asn Pro Arg Ser Ala Val Asn Arg Lys Ser Glu Tyr Ala Lys Thr Arg  
                   100                  105                  110  
 Val Gly Lys Gly Ala Thr Ile Gly Ala Asn Ala Thr Ile Val Cys Gly  
                   115                  120                  125  
 His Asp Ile Gly Glu Phe Ala Phe Ile Gly Ala Gly Ala Val Val Thr  
                   130                  135                  140  
 Lys Thr Val Pro Pro Tyr Ala Leu Leu Val Gly Asn Pro Ala Arg Gln  
                   145                  150                  155                  160  
 Ile Gly Trp Met Ser Glu His Gly Tyr Arg Leu Glu Phe Asp Glu Arg  
                   165                  170                  175  
 Gly Ile Ala Glu Cys Leu Glu Ser Lys Glu Cys Tyr Gln Leu Arg Asp  
                   180                  185                  190  
 Gly Lys Val Phe Lys Met  
                   195

<210> 5363  
 <211> 74  
 <212> PRT  
 <213> B.fragilis

<400> 5363  
 Ile Arg Leu Arg Ile Gly Ile Asp Lys Ser Glu Ile Lys Leu Ala Lys  
 1                  5                  10                  15  
 Thr Phe Pro Glu Asn Lys Thr Thr Thr Leu Phe Lys Asn Gly Glu Leu  
                   20                  25                  30  
 Ser Ile Phe Leu Leu Ile Arg Ile Ile Thr Leu Ile Tyr Pro Ser Ile  
                   35                  40                  45  
 Leu Asn Asp Lys Leu Pro Leu Lys Ser Pro Phe His Phe Pro Asn Ile  
                   50                  55                  60  
 Ile Leu Ser Trp His Leu Ala Tyr Leu Leu  
 65                  70

<210> 5364  
 <211> 177  
 <212> PRT  
 <213> B.fragilis

<400> 5364  
 Lys Ser Ser Arg Asp Lys Asn Arg Phe Phe Val Asp Tyr Leu Thr Trp  
 1                  5                  10                  15  
 Asn Thr Asn Gly Arg Trp Ala Ala Glu Tyr Lys Asp Gly Val Phe Tyr  
                   20                  25                  30  
 His Tyr Glu Asn Gly Asp Thr Thr Lys Cys His Thr Asp Ser Ile Leu  
                   35                  40                  45  
 Asn Tyr Ile Ser Asp Ala Gly Glu Asn Trp Gln Met Lys Ile Glu Gly  
                   50                  55                  60  
 Asp His Phe Val His Ala Pro Asn Gly Asp Tyr Ser Arg Ala His Thr  
                   65                  70                  75                  80  
 Asp Thr Val Met His Tyr Ile Gly Trp Asp Gly Arg Lys Trp Arg Ala  
                   85                  90                  95  
 Glu Leu Leu Thr Leu Ile Asp Gly Leu His Pro Asp Leu Ala Ser Asp  
                   100                  105                  110  
 Cys Pro Glu Gly Met Leu Leu Lys Ala Asp Asn Ala Asp Ala Val Tyr  
                   115                  120                  125  
 Leu Val Gln Phe Gly Ser Leu His His Ile Pro Asn Pro Asp Val Tyr  
                   130                  135                  140  
 Phe Ala Leu Phe Pro Ala Trp Asp Lys Ile Thr Val Lys Ser Gln Glu

145		150		155		160									
Glu	Val	Asn	Ala	Ile	Pro	Val	Gly	Ile	Pro	Leu	Ser	Leu	Trp	Met	Leu
		165			170									175	
Val															

<210> 5365  
 <211> 60  
 <212> PRT  
 <213> B.fragilis

<400> 5365

Ile	Ser	Ala	Ser	Leu	Leu	Leu	His	Pro	Ile	Thr	Leu	Val	Gly	Leu	Thr
1				5					10					15	
Ala	Leu	Ser	Val	Glu	Thr	Ile	Thr	Asn	Phe	Ser	Thr	Pro	Tyr	Leu	Thr
			20					25					30		
Ala	Lys	Ser	Ala	Ile	Ile	Arg	Val	Pro	Ser	Thr	Phe	Thr	Cys	Met	Ala
			35				40					45			
Ser	Asp	Thr	Leu	Ser	Ser	Ile	Met	Gly	Thr	Cys	Leu				
	50					55					60				

<210> 5366  
 <211> 446  
 <212> PRT  
 <213> B.fragilis

<400> 5366

Arg	Trp	Gln	Ser	Ile	Gln	Asn	Val	Ile	Phe	Asn	Phe	Lys	Arg	Pro	Arg
1				5					10					15	
Val	Met	Tyr	Asn	Lys	Leu	Val	Asn	Lys	Glu	Ala	Lys	Leu	Ala	Leu	Val
			20					25				30			
Gly	Leu	Gly	Tyr	Val	Gly	Leu	Pro	Ile	Ala	Leu	Glu	Phe	Ala	Gln	Lys
			35				40					45			
Ile	Ser	Val	Ile	Gly	Phe	Asp	Ile	Asn	Glu	Asp	Arg	Leu	Ala	Lys	Met
	50					55					60				
Arg	Glu	Gly	Ile	Asp	Pro	Cys	Gly	Glu	Leu	Asp	Ser	Ser	Ala	Phe	Glu
65					70				75						80
Asn	Val	Asp	Ile	Glu	Phe	Thr	Ser	Ser	Ile	Glu	Lys	Leu	Lys	Glu	Ala
			85						90					95	
Ser	Phe	Phe	Ile	Val	Ala	Val	Pro	Thr	Pro	Ile	Asp	Lys	Tyr	Asn	Lys
			100					105					110		
Pro	Asp	Leu	Thr	Pro	Leu	Leu	Gly	Ala	Ser	Arg	Ser	Val	Ala	Lys	Ala
			115				120					125			
Leu	Lys	Pro	Gly	Asp	Tyr	Ile	Val	Tyr	Glu	Ser	Thr	Val	Tyr	Pro	Gly
	130					135					140				
Cys	Thr	Glu	Glu	Asp	Cys	Leu	Pro	Val	Leu	Glu	Glu	Val	Ser	Gly	Leu
145					150				155						160
Lys	Ala	Gly	Ile	Asp	Phe	Lys	Tyr	Gly	Tyr	Ser	Pro	Glu	Arg	Ile	Asn
				165				170						175	
Pro	Gly	Glu	Lys	Val	His	Thr	Leu	Pro	Asn	Thr	Ile	Lys	Ile	Val	Ser
			180					185					190		
Gly	Cys	Asp	Pro	Glu	Ala	Leu	Asp	Thr	Val	Ala	Arg	Val	Tyr	Glu	Leu
			195				200					205			
Val	Val	Lys	Pro	Gly	Val	His	Arg	Ala	Pro	Asn	Val	Lys	Val	Ala	Glu
	210					215					220				
Ala	Ala	Lys	Ile	Ile	Glu	Asn	Thr	Gln	Arg	Asp	Val	Asn	Ile	Ala	Leu
225					230				235						240
Met	Asn	Glu	Leu	Ser	Ile	Ile	Phe	Ser	Arg	Ile	Gly	Ile	Asn	Thr	Tyr
				245					250					255	

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Asp Val Leu Glu Ala Ala Gly Thr Lys Trp Asn Phe Leu Lys Phe Tyr
      260      265
Pro Gly Leu Val Gly Gly His Cys Ile Gly Val Asp Pro Tyr Tyr Leu
      275      280      285
Val Gln Lys Ala Ser Glu Leu Lys Tyr His Cys Gln Ile Ile Ser Ala
      290      295      300
Gly Arg Tyr Ile Asn Asp Ser Met Gly Gly Tyr Ile Ala Lys Lys Leu
      305      310      315      320
Val Lys Arg Leu Ile Ser Leu Gly Lys Gly Val Leu Gly Ala Arg Val
      325      330      335
Leu Val Met Gly Val Thr Phe Lys Glu Asn Val Ala Asp Ile Arg Asn
      340      345      350
Ser Lys Val Val Asp Ile Val Asn Glu Leu Lys Asp Phe Gly Cys Asp
      355      360      365
Val Asp Val Val Asp Pro Tyr Ala Asp Ser Asp Glu Val His Arg Glu
      370      375      380
Tyr Gly Phe Arg Leu Val Glu Lys Pro Arg Asp Asn Tyr Asp Ala Val
      385      390      395      400
Ile Val Ala Val Ala His Asp Glu Tyr Lys Asn Leu Glu Glu Lys Tyr
      405      410      415
Phe Lys Asn Met Thr Tyr Asp His Ala Val Leu Val Asp Ile Lys Gly
      420      425      430
Met Tyr Arg Asp Arg Ile His Lys Leu Lys Tyr Trp Ser Leu
      435      440      445

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<210> 5367

<211> 370

<212> PRT

<213> B.fragilis

<400> 5367

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Glu Asp Met Gly Lys Lys Arg Val Cys His Val Thr Ser Val His Pro
1      5      10      15
Ala Asp Asp Ile Arg Ile Leu His Lys Glu Cys Val Ser Leu Ser Asn
      20      25      30
Ala Gly Tyr Glu Val Tyr Leu Val Ala Pro Glu Val Ser Asn Gln Leu
      35      40      45
Lys Asn Gly Ile Gln Ile Ile Gly Val Leu Asn Lys Pro Val Ser Arg
      50      55      60
Phe His Arg Ile Leu Phe Tyr Ile Arg Tyr Val Tyr Lys Lys Ala Leu
      65      70      75      80
Trp Val Asn Ala Asp Ile Tyr His Leu His Asp Pro Glu Leu Leu Leu
      85      90      95
Tyr Ala Leu Leu Leu Lys Lys Lys Gly Lys Ile Val Ile Phe Asp Ser
      100      105      110
His Glu Asp Ile Pro Arg Gln Ile Leu Ser Lys Glu Trp Ile Pro Phe
      115      120      125
Phe Ile Arg Lys Phe Ile Ser Phe Ser Tyr Thr Lys Tyr Glu Lys Phe
      130      135      140
Ile Leu Lys Gln Leu Asp Ala Ile Val Thr Val Asn Gln Asp Ile Ala
      145      150      155      160
Ser Arg Leu Val Gln Tyr Asn Lys Arg Thr Tyr Val Val Ser Asn Tyr
      165      170      175
Pro Val Phe Arg Asn Asn Val Glu Arg Ser Ser Val Met Glu Arg Thr
      180      185      190
Ile Gly Phe Ala Gly Asn Ile Lys Gln Glu Tyr Met His Glu Asn Ile
      195      200      205
Leu Ile Ala Leu Thr Asn Leu Gly Asn Val Arg Tyr Leu Leu Ala Gly
      210      215      220

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Asn Ala Glu Glu Gly Tyr Leu Lys Gln Leu Gln Thr Phe Lys Gly Trp  
 225 230 235 240  
 Asp Phe Val Asp Phe Tyr Gly Arg Ile Ser Lys Glu Lys Val Leu Leu  
 245 250 255  
 Leu Tyr Asp Lys Val Ala Ile Gly Met Ala Ile His Asp Tyr Thr Leu  
 260 265 270  
 Asn Val Gly Gly Lys Lys Gly Gly Leu Gly Phe Ile Lys Asn Phe Glu  
 275 280 285  
 Tyr Met Glu Ala Gly Ile Pro Leu Ile Cys Thr Asp Phe Asp Ile Trp  
 290 295 300  
 Lys Glu Ile Val Glu Glu Tyr Tyr Cys Gly Ile Cys Val Asn Pro His  
 305 310 315 320  
 Asp Val Asn Ser Ile Thr Gly Ala Ile Gln Tyr Leu Ile Asp Asn Pro  
 325 330 335  
 Val Ile Ala Arg Lys Met Gly Asp Asn Gly Arg Arg Ala Val Lys Glu  
 340 345 350  
 Lys Phe Asn Trp Glu Thr Gln Glu Glu Ile Leu Leu Gln Leu Tyr Asp  
 355 360 365  
 Ser Leu  
 370

&lt;210&gt; 5368

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5368

Cys Asp Phe Met Asn Asp Gly Glu Arg Lys Glu Thr Val Leu Ser Phe  
 1 5 10 15  
 Phe Tyr Arg Lys Ile Leu Lys Lys Ser Ser Pro Pro Tyr Tyr Cys Tyr  
 20 25 30  
 Tyr Ser Leu Leu Thr Ile Cys Ala Lys Pro Ile Arg Lys Trp Phe Ser  
 35 40 45  
 Val Val Val Ile Pro Ile Ile Pro Phe Ser Asn Leu Arg Val Gln Cys  
 50 55 60  
 Tyr Arg Trp Cys Gly Tyr Lys Ile Gly Arg His Thr Phe Ile Gly Met  
 65 70 75 80  
 Arg Cys Tyr Leu Asp Asp Met Cys Tyr Asp Leu Ile Glu Ile Gly Glu  
 85 90 95  
 Asn Val Thr Ile Ser Tyr Gly Val Phe Phe Ala Cys His Gly Arg Lys  
 100 105 110  
 Gln Gly His Asn Arg Ile Ile Ile Lys Asp Gly Ala Tyr Ile Gly Met  
 115 120 125  
 Asn Ser Ser Ile Ile Ser Arg Arg Glu Glu Gly Leu Ile Ile Gly Lys  
 130 135 140  
 Glu Ala Ile Val Gly Ala Cys Ser Leu Val Asn Arg Ser Val Pro Asp  
 145 150 155 160  
 Asn Lys Thr Val Val Gly Val Pro Ala Lys Glu Leu Asn Ala Val Leu  
 165 170 175  
 His Gly Asn Lys  
 180

&lt;210&gt; 5369

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5369

Lys Glu Ile Ile Ile Leu Trp Gln Asn Phe Leu Cys Gln Ser Ile Arg

```

1           5           10           15
Leu Ala Gly Asn Lys Val Thr Asp Ile Ile Met Lys Leu Gln Met Val
20           25           30
Asp Leu His Gly Gln Tyr Leu Asn Ile Lys Pro Glu Val Asp Ala Gly
35           40           45
Ile Arg Gln Val Ile Glu Thr Ser Ala Phe Ile Asn Gly Pro Gln Val
50           55           60
Lys Glu Phe Ala Glu Asn Leu Lys Ala Tyr Met Gly Ser Lys Tyr Val
65           70           75           80
Ile Thr Cys Gly Asn Gly Thr Asp Ala Leu Gln Ile Ala Leu Met Ala
85           90           95
Leu Asp Leu Lys Pro Gly Asp Glu Val Ile Val Pro Ala Phe Thr Tyr
100          105          110
Val Ala Ser Ala Glu Val Ile Gly Leu Leu Gly Leu Ile Pro Val Met
115          120          125
Val Asp Val Asp Tyr Ala Thr Phe Asn Val Thr Val Ser Asn Leu Glu
130          135          140
Lys Ala Leu Ser Pro Lys Thr Lys Ala Ile Ile Pro Val His Leu Phe
145          150          155          160
Gly Gln Ser Cys Asp Met Glu Pro Ile Met Gln Phe Ala Lys Gln His
165          170          175
Gly Ile Tyr Val Ile Glu Asp Asn Ala Gln Ala Ile Gly Ala Val Tyr
180          185          190
Thr Phe Ser Asp Gly Ser Lys Lys His Thr Gly Ala Ile Gly His Ile
195          200          205
Gly Cys Thr Ser Phe Phe Pro Ser Lys Asn Leu Gly Cys Tyr Gly Asp
210          215          220
Gly Gly Ala Ile Phe Thr Asp Asp Asp Glu Leu Ala Glu Arg Leu Arg
225          230          235          240
Met Ile Ala Asn His Gly Gln Gln Val Lys Tyr His His Lys Val Ile
245          250          255
Gly Cys Asn Ser Arg Leu Asp Thr Leu Gln Ala Ala Ile Leu Asn Val
260          265          270
Lys Leu Lys His Leu Asp Glu Tyr Ser His Ala Arg His Glu Ala Ala
275          280          285
Gln Tyr Tyr Thr Phe Gln Leu Gln Gly Val Lys Gly Ile Ile Thr Pro
290          295          300
Glu Glu Leu Pro Leu Ser Thr His Val Tyr His Gln Tyr Thr Leu Lys
305          310          315          320
Val Leu Asp Gly Lys Arg Asp Val Leu Lys Gln His Leu Ala Asp Ala
325          330          335
Gly Ile Pro Ser Met Ile Tyr Tyr Pro Leu Pro Leu Gln Gln Gln Glu
340          345          350
Ala Phe Gln Thr Ile Ala Arg Ala Ala Glu Pro Leu Asp Thr Ala Glu
355          360          365
Lys Leu Ala Tyr Ser Val Leu Ser Leu Pro Ile His Thr Glu Leu Ser
370          375          380
Thr Glu Gln Gln Asp Leu Val Ile Asn Ser Ile Lys Asp Phe Phe
385          390          395

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&lt;210&gt; 5370

&lt;211&gt; 373

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5370

```

Val Ile Thr Met Thr Glu Asp Lys Asn Ile Asn Lys Thr Thr Pro Gln
1           5           10           15
Ser Glu Glu Gln Glu Ile Asp Leu Ile Glu Leu Ala Gln Lys Val Trp

```



20				25				30							
Ala	Gly	Arg	Lys	Leu	Val	Leu	Lys	Val	Cys	Gly	Val	Ala	Val	Leu	Val
35				40				45							
Gly	Leu	Val	Val	Ala	Phe	Ser	Ile	Pro	Lys	Glu	Tyr	Ser	Thr	Ser	Val
50				55				60							
Thr	Leu	Ala	Pro	Glu	Thr	Gly	Ser	Lys	Ser	Ser	Thr	Gly	Gly	Met	Gly
65				70				75				80			
Ala	Leu	Ala	Ala	Met	Asp	Gly	Ile	Asn	Leu	Gly	Ser	Ser	Thr	Gly	Glu
85				90				95							
Asp	Ala	Leu	Ser	Pro	Glu	Leu	Tyr	Pro	Asp	Ile	Val	Ser	Ser	Thr	Pro
100				105				110							
Phe	Leu	Leu	Glu	Met	Phe	Asp	Val	Lys	Val	Ala	Asp	Gln	Lys	Gly	Lys
115				120				125							
Ile	Asn	Thr	Thr	Leu	Tyr	Glu	Tyr	Leu	Asp	Lys	Tyr	Gln	Arg	Ala	Pro
130				135				140							
Trp	Trp	Gly	Ala	Val	Ala	Ser	Ala	Pro	Phe	Lys	Ala	Leu	Gly	Trp	Val
145				150				155				160			
Val	Ser	Leu	Phe	Lys	Asp	Ala	Pro	Glu	Glu	Gln	Gly	Asp	Ala	Lys	Ile
165				170				175							
Asp	Pro	Phe	Tyr	Leu	Thr	Ala	Asp	Gln	Ala	Gly	Ile	Ala	Asp	Ala	Leu
180				185				190							
Ser	His	Arg	Ile	Ser	Val	Ser	Val	Asp	Lys	Lys	Thr	Gly	Val	Thr	Thr
195				200				205							
Leu	Thr	Val	Thr	Met	Gln	Asp	Pro	Leu	Ile	Ser	Ala	Ala	Leu	Thr	Asp
210				215				220							
Thr	Val	Met	His	Cys	Leu	Gln	Asn	Tyr	Ile	Thr	Asp	Tyr	Arg	Thr	Asn
225				230				235				240			
Lys	Ala	Arg	His	Asp	Leu	Ala	Phe	Thr	Glu	Lys	Leu	Phe	Asn	Glu	Ala
245				250				255							
Gln	Glu	Asn	Tyr	Tyr	Glu	Ala	Gln	Gln	Lys	Tyr	Ala	Arg	Phe	Met	Asp
260				265				270							
Gly	Asn	Gln	Asn	Ile	Ile	Met	Gln	Ser	Phe	Arg	Thr	Glu	Gln	Glu	Arg
275				280				285							
Leu	Gln	Asn	Glu	Met	Asn	Leu	Ala	Tyr	Gly	Val	Phe	Thr	Gln	Val	Ser
290				295				300							
Gln	Gln	Leu	Gln	Leu	Ala	Lys	Ala	Lys	Val	Gln	Glu	Ile	Thr	Pro	Val
305				310				315				320			
Tyr	Thr	Val	Val	Gln	Pro	Ala	Thr	Val	Pro	Leu	Arg	Pro	Ala	Lys	Pro
325				330				335							
Asn	Lys	Ile	Met	Ile	Leu	Ile	Gly	Phe	Val	Phe	Leu	Ala	Gly	Val	Gly
340				345				350							
Ser	Ile	Gly	Trp	Ile	Leu	Phe	Val	Lys	Asp	Leu	Leu	Asn	Gly	Trp	Lys
355				360				365							
Lys	Gln	Pro	Glu	Lys											
370															

&lt;210&gt; 5371

&lt;211&gt; 226

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5371

Phe	Cys	Ala	Ile	Ile	Leu	Arg	Met	Met	Asn	Met	Lys	Pro	Ile	Ile	Ser
1	5			10			15								
Pro	Ser	Ile	Leu	Ser	Ala	Asp	Phe	Ala	Tyr	Leu	Ala	Lys	Asp	Ile	Glu
20				25				30							
Met	Ile	Asn	Arg	Ser	Glu	Ala	Asp	Trp	Val	His	Ile	Asp	Ile	Met	Asp
35				40				45							
Gly	Val	Phe	Val	Pro	Asn	Ile	Ser	Phe	Gly	Phe	Pro	Val	Leu	Lys	Tyr

50	55	60
Val Ala Lys Leu Thr	Ser Lys Pro Leu Asp	Val His Leu Met Ile Val
65	70	75
Asn Pro Glu Lys Phe	Ile Pro Glu Val Lys	Ala Leu Gly Ala His Ile
85	90	95
Met Asn Val His Tyr	Glu Ala Cys Pro His	Leu His Arg Val Val Gln
100	105	110
Leu Ile Arg Glu Ala	Gly Met Gln Pro Ala	Val Thr Ile Asn Pro Ala
115	120	125
Thr Pro Ile Thr Leu	Leu Gln Asp Ile Ile	Arg Asp Val Tyr Met Val
130	135	140
Leu Val Met Ser Val	Asn Pro Gly Phe Gly	Gly Gln Lys Phe Ile Glu
145	150	155
His Ser Val Glu Lys	Val Lys Glu Leu Arg	Glu Leu Ile Glu Arg Thr
165	170	175
Gly Ser Lys Ala Leu	Ile Glu Val Asp Gly	Gly Val Asn Leu Glu Thr
180	185	190
Gly Ala Arg Leu Ile	Ala Ala Gly Ala Asp	Ala Leu Val Ala Gly Asn
195	200	205
Ala Ile Phe Ala Ala	Glu Asn Pro Glu Gly	Met Ile His Ala Met Lys
210	215	220
Gly Leu		
225		

&lt;210&gt; 5372

&lt;211&gt; 348

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5372

Ile Phe Tyr Met	Asn Lys Lys Arg	Lys Lys Ile Phe	Leu Ser Ile Leu
1	5	10	15
Ala Thr Phe Phe	Phe Ile Cys Ile	Ala Gly Ala Gly	Thr Val Tyr Tyr
20	25	30	
Tyr Leu Phe Tyr	Pro Gln Phe His	Pro Ser Lys Thr	Thr Tyr Ile Tyr
35	40	45	
Ile Asp Arg Asp	Asp Thr Thr Asp	Ser Ile Phe Asn	Lys Ile Lys Lys
50	55	60	
Gln Gly Asn Pro	His Ser Phe Asn	Gly Phe Lys Trp	Met Ser His Phe
65	70	75	80
Arg Glu Tyr Ser	Lys Asn Ile His	Thr Gly Arg Tyr	Ala Ile Lys Pro
85	90	95	
Gly Asp Ser Thr	Tyr Gln Leu Tyr	Ser Arg Leu Ser	Arg Gly Tyr Gln
100	105	110	
Thr Pro Val Asn	Leu Thr Ile Gly	Ser Val Arg Thr	Leu Asp Arg Leu
115	120	125	
Val Arg Ser Val	Gly Lys Gln Leu	Met Ile Asp Ser	Ala Glu Ile Ala
130	135	140	
Met Ala Leu Tyr	Asp Ser Ile Phe	Leu Glu Lys Met	Gly Tyr Thr Glu
145	150	155	160
Ala Thr Ile Pro	Cys Leu Phe Ile	Pro Glu Thr Tyr	Gln Val Tyr Trp
165	170	175	
Asp Val Ser Ala	Ala Asp Phe Leu	Ala Arg Met Lys	Lys Glu His Asp
180	185	190	
Lys Phe Trp Asn	Lys Asp Arg Leu	Ser Lys Ala Gln	Ala Ile Gly Met
195	200	205	
Thr Pro Glu Glu	Ile Cys Thr Leu	Ala Ser Ile Val	Glu Glu Glu Thr
210	215	220	
Asn Asn Asn Ala	Glu Lys Pro Met	Val Ala Gly Leu	Tyr Ile Asn Arg

225		230		235		240									
Leu	His	Ala	Gly	Met	Pro	Leu	Gln	Ala	Asp	Pro	Thr	Ile	Lys	Phe	Ala
		245							250					255	
Leu	Gln	Asp	Phe	Gly	Leu	Arg	Arg	Ile	Thr	Asn	Gln	His	Leu	Asp	Val
		260						265					270		
Gln	Ser	Pro	Tyr	Asn	Thr	Tyr	Leu	Asn	Ala	Gly	Leu	Pro	Pro	Gly	Pro
		275					280					285			
Ile	Arg	Ile	Pro	Ser	Pro	Lys	Gly	Leu	Asp	Ser	Val	Leu	Asn	Tyr	Val
	290					295					300				
Lys	His	Asn	Tyr	Ile	Tyr	Met	Cys	Ala	Lys	Glu	Asp	Phe	Ser	Gly	Thr
305					310					315					320
His	Asn	Phe	Ala	Ser	Asn	Tyr	Ala	Asp	His	Met	Val	Asn	Ala	Arg	Lys
		325							330					335	
Tyr	Trp	Lys	Ala	Leu	Asn	Glu	Arg	Lys	Ile	Phe	Lys				
		340						345							

&lt;210&gt; 5373

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5373

Ile	Phe	Asn	Ile	Met	Lys	Asn	Lys	Arg	Lys	Arg	Pro	Ser	Lys	Lys	Gln
1			5					10					15		
His	His	Asn	Ser	Phe	Lys	Ser	Phe	Trp	Ile	Ile	Ala	Leu	Phe	Ala	Ile
		20						25					30		
Leu	Pro	Leu	Ile	Tyr	Gly	Val	Tyr	Leu	Cys	Thr	Pro	Glu	Ile	Gln	Ala
	35					40						45			
Val	Phe	Phe	Gln	Ala	Thr	Lys	Val	Ser	Arg	Pro	Asn	Val	Ala	Arg	Pro
	50					55					60				
Asn	Tyr	Ser	His	Asp	Glu	Asn	Leu	Lys	Ile	Pro	Val	Ser	Gln	Phe	Pro
65				70					75						80
Leu	Thr	Glu	Gln	Ile	Ile	His	His	Lys	Gly	Tyr	Thr	Val	Ser	Tyr	Asn
			85						90					95	
Lys	Asp	Lys	Lys	Ile	Pro	Asn	Trp	Val	Ala	Tyr	Glu	Leu	Thr	Lys	Gln
		100						105					110		
Lys	Thr	Gln	Gly	Asn	Ile	Lys	Arg	Asn	Glu	Arg	Phe	Ile	Ala	Asp	Pro
	115					120						125			
Val	Val	Lys	Gly	Gly	Met	Ala	Asn	Asn	Ser	Asp	Tyr	Ser	Arg	Ser	Gly
	130					135					140				
Phe	Asp	Lys	Gly	His	Met	Ala	Pro	Ala	Ala	Asp	Met	Lys	Trp	Ser	Asn
145				150						155					160
Glu	Ala	Met	Lys	Glu	Ser	Phe	Tyr	Phe	Ser	Asn	Val	Cys	Pro	Gln	His
		165						170						175	
Pro	Glu	Leu	Asn	Arg	Arg	Lys	Trp	Lys	Thr	Leu	Glu	Asp	Lys	Val	Arg
		180						185					190		
Glu	Trp	Ala	Val	Ala	Asp	Ser	Ala	Ile	Leu	Ile	Ile	Cys	Gly	Pro	Val
	195					200						205			
Thr	Asn	Lys	Lys	Ser	Pro	Val	Ile	Gly	Lys	Ser	Arg	Val	Thr	Val	Pro
	210					215					220				
Ser	Lys	Phe	Phe	Lys	Val	Ile	Leu	Ser	Leu	His	Gly	Ser	Thr	Pro	Lys
225				230					235						240
Ala	Ile	Gly	Phe	Ile	Phe	Lys	Asn	Glu	Arg	Ala	Ile	Ala	Pro	Leu	Arg
		245						250						255	
Asn	Tyr	Ala	Val	Ser	Ile	Asp	Ser	Ile	Glu	Gln	Leu	Thr	Gly	Leu	Asp
		260						265					270		
Phe	Phe	Ser	Ser	Leu	Pro	Asp	Ser	Leu	Glu	Asn	Glu	Ile	Glu	Ser	Arg
		275					280					285			
Ile	Asp	Thr	Thr	Leu	Trp	Ser	Ile								

290

295

&lt;210&gt; 5374

&lt;211&gt; 410

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5374

```

Phe Met Asn Ile Leu Leu Ile Asn His Tyr Ala Gly Tyr Pro Asn Leu
1      5      10      15
Gly Met Glu Tyr Arg Pro Tyr Tyr Leu Ser Lys Glu Trp Val Arg Met
      20      25      30
Gly His Gln Val Arg Val Leu Ala Ala Asn Tyr Ser His Leu Arg Ile
      35      40      45
Lys Gln Pro Leu Asp Ser Phe Ser Val Ile Asp Gly Ile His Tyr Arg
      50      55      60
Trp Ile Ser Ala Gly Arg Tyr Ser Gly Asn Gly Ala Lys Arg Val Cys
65      70      75      80
Ser Met Phe Cys Phe Val Leu Lys Leu Arg Leu Tyr Phe Arg Asn Tyr
      85      90      95
Leu Asp Gly Phe Ile Pro Asp Leu Val Ile Ala Ser Ser Thr Tyr Pro
      100      105      110
Leu Asp Ile Tyr Pro Ala His Lys Ile Ala Gln Tyr Tyr His Ala Lys
      115      120      125
Leu Ile Tyr Glu Val His Asp Leu Trp Pro Leu Ser Pro Ile Glu Ile
      130      135      140
Gly Gly Tyr Ser Lys Tyr His Pro Phe Ile Ala Leu Leu Gln Lys Ala
145      150      155      160
Glu Asn Asp Ala Tyr Lys Phe Ser Asp Lys Val Ile Ser Leu Leu Pro
      165      170      175
Asn Ala Cys Ser His Met Val Ser His Gly Met Asp Ala Asn Lys Phe
      180      185      190
Val Tyr Ile Pro Asn Gly Tyr Asp Pro Glu Glu Trp Thr Ser Gln Cys
      195      200      205
Asp Leu Ser Pro Leu His Met Gln Phe Ile Ser Glu Leu Lys Asn Lys
      210      215      220
Gly Lys Lys Val Ile Gly Tyr Ala Gly Gly His Ala Lys Ser Asn Ala
225      230      235      240
Leu Asp Tyr Leu Leu Glu Ala Met Lys Ile Val Phe Asp Lys Asn Gln
      245      250      255
Asn Ile Val Cys Leu Leu Val Gly Asn Gly Gln Glu Lys Gly Arg Leu
      260      265      270
Val Glu Arg Val Gln Lys Glu Gly Ile Lys Asn Ile Tyr Phe Leu Asp
      275      280      285
Pro Val Pro Lys Lys Lys Ile Pro Glu Leu Leu Asn Gln Met Asp Val
      290      295      300
Leu Tyr Ile Gly Trp Glu Lys Asn Pro Leu Tyr Arg Phe Gly Ile Ser
305      310      315      320
Pro Asn Lys Leu Ile Asp Tyr Met Met Ser Gln Lys Pro Ile Leu His
      325      330      335
Ser Val Cys Ala Ala Asn Asp Trp Val Lys Glu Ala Asp Cys Gly Ile
      340      345      350
Thr Val Asn Ala Glu Ser Pro Gln Glu Ile Ala Ala Gly Ile Ile Glu
      355      360      365
Ile Phe Ser Phe Ser Asp Val Glu Leu Ile Asn Lys Gly Gly Arg Gly
      370      375      380
Arg Lys Phe Ala Glu Glu Asn Leu Ser Tyr Pro Phe Leu Ala Lys Lys
385      390      395      400
Phe Ile Glu Glu Cys Ile Asn Asn Arg Val

```

405

410

<210> 5375  
 <211> 333  
 <212> PRT  
 <213> B.fragilis

<400> 5375

Asn	Tyr	Tyr	Ile	Cys	Asn	Gln	Thr	Lys	Lys	Thr	Leu	Ile	Met	Pro	Asn
1				5					10					15	
Phe	Phe	Lys	Ser	Phe	Phe	Ala	Gly	Lys	Thr	Glu	Asn	Pro	Glu	Glu	Glu
			20					25				30			
Lys	Gln	Lys	Asn	Ala	Lys	Lys	Asn	Phe	Glu	Ile	Phe	Lys	Tyr	Asp	Gly
			35				40					45			
Leu	Arg	Ala	Gln	Arg	Met	Gly	Arg	Pro	Asp	Tyr	Ala	Ile	Lys	Cys	Phe
			50			55					60				
Asn	Glu	Ala	Leu	Ala	Ile	Glu	Glu	Asp	Phe	Glu	Thr	Leu	Asn	Tyr	Leu
65					70				75						80
Ser	Gln	Leu	Tyr	Ile	Gln	Thr	Gly	Glu	Phe	Gly	Lys	Ala	His	Glu	Leu
			85					90						95	
Leu	Glu	Arg	Met	Ile	Ala	Leu	Glu	Pro	Glu	Leu	Thr	Ser	Thr	Tyr	Leu
			100					105					110		
Thr	Leu	Ala	Asn	Leu	Cys	Phe	Met	Gln	Glu	Asp	Tyr	Gln	Glu	Met	Ala
			115				120					125			
Asp	Ala	Ala	Gln	Lys	Ala	Ile	Ala	Leu	Glu	Glu	Gly	Asn	Ala	Met	Ala
			130			135					140				
His	Tyr	Leu	Leu	Gly	Lys	Ala	Asn	His	Gly	Leu	Asp	Asn	Gly	Ile	Met
145					150				155						160
Thr	Ile	Ala	His	Leu	Thr	Lys	Ala	Ile	Val	Leu	Lys	Asp	Asp	Phe	Thr
			165					170						175	
Glu	Ala	Arg	Leu	Leu	Arg	Ala	Glu	Ala	Leu	Tyr	Lys	Met	Gln	Gln	Phe
			180				185						190		
Ala	Glu	Ala	Met	Glu	Asp	Ile	Glu	Ala	Ile	Leu	Thr	Gln	Asn	Pro	Asp
			195				200					205			
Glu	Glu	Ala	Ala	Leu	Leu	Leu	Arg	Gly	Lys	Ile	Lys	Glu	Ala	Thr	Gly
			210			215					220				
Lys	Glu	Glu	Glu	Ala	Glu	Thr	Asp	Tyr	Leu	His	Val	Thr	Glu	Ile	Asn
225					230				235						240
Pro	Phe	Asn	Glu	Gln	Ala	Tyr	Leu	Tyr	Leu	Gly	Gln	Leu	Phe	Ile	Thr
			245					250					255		
Gln	Lys	Lys	Leu	Thr	Ala	Ala	Ile	Glu	Leu	Phe	Asp	Glu	Ala	Ile	Glu
			260				265					270			
Leu	Asn	Pro	Asn	Phe	Gly	Ala	Ala	Tyr	His	Glu	Arg	Gly	Arg	Ala	Lys
			275			280						285			
Leu	Leu	Asn	Gly	Asp	Lys	Asp	Gly	Ser	Ile	Glu	Asp	Met	Lys	Lys	Ser
			290			295					300				
Leu	Glu	Leu	Asn	Pro	Lys	Glu	Gly	Glu	Asn	Leu	Asn	Gly	Gln	Phe	Asn
305					310				315						320
Asn	Gln	Gln	Ala	Glu	Thr	Thr	Pro	Asn	Val	Leu	Gly	Leu			
			325						330						

<210> 5376  
 <211> 269  
 <212> PRT  
 <213> B.fragilis

<400> 5376

Tyr	Ile	Tyr	Ile	Ile	Val	Met	Ile	Phe	Tyr	Phe	Ser	Gly	Thr	Gly	Asn
1				5					10					15	

Ser Lys Trp Ile Ala Glu Gln Ile Ala Lys Ala Gln Asn Glu Val Leu  
 20 25 30  
 Val Phe Met Pro Asn Ala Ile Arg Asp Gly Ile Glu Glu Phe Val Leu  
 35 40 45  
 Ala Asp Asp Glu Lys Val Gly Phe Val Phe Pro Val Tyr Ser Trp Gly  
 50 55 60  
 Pro Pro Leu Ser Val Leu Arg Phe Leu Asp Trp Ile Thr Leu Ser Asn  
 65 70 75 80  
 Tyr His Ser Gln Tyr Val Phe Phe Val Cys Ser Cys Gly Asp Asp Thr  
 85 90 95  
 Gly Leu Thr Glu Glu Leu Phe Arg Arg Ala Leu Ser Arg Lys Gly Met  
 100 105 110  
 Glu Cys Asn Ala Gly Phe Ser Val Ala Met Pro Asn Asn Tyr Val Leu  
 115 120 125  
 Leu Pro Gly Phe Asp Val Asp Lys Lys Glu Leu Glu Lys Lys Lys Leu  
 130 135 140  
 Asp Glu Ala Val Gly Arg Val Glu Glu Ile Asn Asp Ser Ile Thr Gly  
 145 150 155 160  
 Lys Lys Ile Gly Phe His Cys Asn Glu Gly Ser Phe Pro Trp Phe Lys  
 165 170 175  
 Thr Lys Val Leu Asn Pro Leu Phe Asn Arg Phe Met Thr Ser Ala Lys  
 180 185 190  
 Pro Phe Tyr Ala Thr Asp Asp Cys Ile Gly Cys Lys Arg Cys Glu Arg  
 195 200 205  
 Ile Cys Pro Val Gly Asn Val Val Met Ile Gly Trp Arg Pro Val Trp  
 210 215 220  
 Gly Met Asp Cys Thr Ser Cys Leu Ala Cys Tyr His Val Cys Pro Lys  
 225 230 235 240  
 His Ala Val Gln Tyr Gly Arg Arg Thr Lys Arg Lys Gly Gln Tyr Leu  
 245 250 255  
 Asn Pro Asn Val Ser Ile Ser His Glu Ala Ala Ala Gln  
 260 265

&lt;210&gt; 5377

&lt;211&gt; 724

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5377

Tyr Met Ile Ile Lys Ser Val Thr Ile Asn Asn Phe Arg Ser Tyr Tyr  
 1 5 10 15  
 Arg Glu Asn Thr Phe Glu Phe Ser Lys Gly Leu Thr Leu Ile Ile Gly  
 20 25 30  
 Gly Asn Gly Asp Gly Lys Thr Thr Phe Phe Glu Ala Leu Glu Trp Leu  
 35 40 45  
 Leu Asp Thr Ala His Glu Thr Lys Asp Pro Ser Leu Ile Ser Glu Met  
 50 55 60  
 Arg Lys Ser Glu Leu Asp Glu Asp Glu Ala Asp Thr Met Ser Val Ser  
 65 70 75 80  
 Met Phe Phe Glu His Asn Gly Glu Lys Glu Val Ser Lys Ser Leu Thr  
 85 90 95  
 Phe Glu Lys Arg Asn Gly Val Cys Gln Val Thr Asn Phe Ala Phe Lys  
 100 105 110  
 Gly Tyr Glu Thr Asn Gly Ala Glu Arg Met Gln Arg Lys Gly Ser Ser  
 115 120 125  
 Leu Ile Asp Val Cys Phe Asp Ala Phe Ile Arg Lys Tyr Cys Leu Phe  
 130 135 140  
 Lys Gly Glu Ser Gln Leu Asn Val Phe Asn Glu Lys Glu Ala Leu Arg  
 145 150 155 160

Thr	Leu	Val	Asp	Lys	Phe	Ser	Asp	Ile	Arg	Lys	Phe	Glu	Asp	Tyr	Val		
				165					170					175			
Ala	Val	Ala	Thr	Glu	Leu	Glu	Ala	Lys	Ser	Asp	Arg	Ala	Tyr	Ala	Lys		
			180					185					190				
Glu	Cys	Gln	Ser	Asp	Lys	Lys	Ile	Ser	Gln	Arg	Val	Ser	Glu	Leu	Gln		
		195					200					205					
Cys	Lys	Lys	Glu	His	Leu	Gly	Gln	Gln	Ile	Asp	Glu	Ile	Lys	Cys	Asp		
	210					215					220						
Ile	Arg	Lys	Gln	Glu	Asp	Val	Val	Ser	Thr	Tyr	Ser	Val	Lys	Leu	Glu		
225					230					235					240		
Asp	Leu	Glu	Lys	His	Gln	Val	Thr	Ser	Glu	Ser	Tyr	Gln	Asp	Ile	Lys		
				245					250					255			
Lys	Arg	Ile	Asp	Thr	Gln	Arg	Glu	Lys	Leu	Ala	Lys	Leu	Arg	Ser	Met		
			260					265						270			
Thr	Met	Val	Arg	Tyr	Asn	Thr	Asn	Leu	Leu	Asp	Glu	Phe	Trp	Ala	Leu		
		275					280						285				
Met	Pro	Tyr	Gln	Asn	Val	Phe	Glu	Glu	Phe	Gln	Lys	Lys	Val	Ser	Ala		
	290					295					300						
Leu	Ser	Lys	Glu	Lys	Arg	Arg	Leu	Ser	Asp	Leu	Asp	Ile	Gln	Glu	Lys		
305					310						315				320		
Ala	Ala	Ala	Lys	Ala	Lys	Lys	Glu	Val	Val	Asp	Glu	Leu	Thr	Ser	Ser		
				325						330					335		
Leu	Gln	Ser	Asp	Phe	Thr	Arg	Leu	Pro	Trp	Tyr	Leu	Pro	Asp	Gly	Glu		
			340					345					350				
Thr	Met	Gln	Glu	Met	Leu	Asp	Glu	Glu	Val	Cys	Lys	Val	Cys	Gly	Arg		
		355					360						365				
Pro	Ala	Lys	Lys	Gly	Thr	Pro	Glu	Tyr	Arg	Phe	Met	Glu	Asn	Lys	Leu		
	370					375					380						
Arg	Glu	Tyr	Leu	Glu	His	Lys	Ser	Gln	Glu	Leu	Ala	Ala	Lys	Gln	Glu		
385					390						395				400		
Glu	Leu	Pro	Asp	Thr	Pro	Leu	Phe	Gly	Thr	Gln	Tyr	Ile	Glu	Glu	Leu		
				405					410					415			
His	Ser	Leu	Ser	Ile	Ser	Phe	Gly	Gly	Met	Thr	Ala	Arg	Asp	Ile	Ser		
			420					425					430				
Lys	Lys	Tyr	Arg	Glu	Val	Val	Asp	Lys	Leu	Glu	Leu	Val	Ala	Arg	Ile		
		435					440					445					
Lys	Arg	Asp	Ile	Ala	Glu	Lys	Glu	Ala	Glu	Leu	Leu	Glu	Leu	Glu	Asp		
	450					455					460						
Glu	Lys	Ser	Arg	Leu	Leu	Ile	Gln	Ala	Asp	Gly	Leu	Thr	Glu	Ala	Met		
465					470					475					480		
Leu	Asp	Lys	Asn	Phe	Arg	Asp	Ile	Lys	Gly	Phe	Tyr	Glu	Gln	Arg	Asp		
				485					490					495			
Arg	Ala	Lys	Asn	Arg	Ile	Ser	Asp	Tyr	Arg	Glu	Arg	Leu	Val	Lys	Val		
			500					505					510				
Gln	Met	Glu	Tyr	Asp	Lys	Val	Lys	Glu	Glu	Phe	Glu	Gln	Leu	Asn	Pro		
		515					520						525				
Thr	Thr	Gly	Met	Ala	Lys	Val	Tyr	Asn	Arg	Val	His	Thr	Leu	Leu	Asp		
		530				535						540					
Lys	Val	Met	Arg	Ala	Phe	Val	Asn	Ala	Lys	Ser	Glu	Asn	Leu	Arg	Arg		
545					550					555					560		
Phe	Leu	Ala	Ser	Leu	Glu	Glu	Arg	Thr	Asn	Ser	Tyr	Phe	Glu	Lys	Leu		
				565					570					575			
Asn	Lys	Asn	Asp	Phe	Arg	Gly	Val	Ile	Arg	Ile	Val	Gln	Thr	Ala	Ser		
			580					585					590				
Asp	Ser	Ala	Glu	Ile	Lys	Leu	Phe	Ser	Ser	Asn	Gly	Thr	Pro	Ile	Lys		
		595					600					605					
Asn	Pro	Gly	Gly	Ala	Gln	Glu	Thr	Thr	Met	Tyr	Met	Ser	Leu	Leu	Phe		
	610					615					620						
Ala	Ile	Ser	Asp	Leu	Thr	Thr	Leu	Lys	Arg	Glu	Glu	Asp	Tyr	Pro	Leu		

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625          630          635          640
Ile Phe Asp Ala Pro Thr Ser Ser Phe Glu Asn Phe Lys Glu Asn Val
          645          650          655
Phe Tyr Asn Ile Ile Asp Lys Ile Gln Lys Gln Cys Ile Ile Val Thr
          660          665          670
Lys Asp Leu Leu Glu Val Asp Lys Leu Thr Gly Lys Lys Thr Leu Asn
          675          680          685
Glu Ala Gln Ile Glu Ala Leu Thr Cys Ser Val Tyr Arg Ile Glu Lys
          690          695          700
Gln Thr Gly Tyr Asn Glu Thr Asp Leu Ser Thr Ile Arg Thr Ile Ile
705          710          715          720
Thr Pro Ile Lys

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<210> 5378  
 <211> 156  
 <212> PRT  
 <213> B.fragilis

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<400> 5378
Phe Cys Pro Ile Ile Thr Lys Val Lys Arg Lys Gln Met Glu Glu Ile
1          5          10          15
Glu Phe His His Ser Leu Pro Ile Gln Leu Arg Phe Asn Asp Val Asp
          20          25          30
Lys Phe Gly His Val Asn Asn Thr Val Tyr Phe Ser Phe Tyr Asp Leu
          35          40          45
Gly Lys Thr Glu Tyr Phe Ala Ser Val Cys Pro Gly Val Asp Trp Glu
          50          55          60
Lys Asp Gly Ile Val Val Val His Ile Glu Ala Asp Phe Leu Ala Gln
65          70          75          80
Ile Phe Ser Ser Asp His Ile Ala Val Gln Thr Ala Val Cys Glu Ile
          85          90          95
Gly Thr Lys Ser Phe His Leu Leu Gln Arg Val Ile Asp Thr Glu Thr
          100          105          110
Met Glu Val Lys Cys Ile Cys Arg Ser Val Met Val Thr Phe Asp Leu
          115          120          125
Glu Arg His Glu Ser Lys Pro Leu Thr Glu Glu Trp Ile Glu Ala Ile
          130          135          140
Cys Arg Phe Glu Gly Arg Asp Leu Arg Lys Lys Lys
145          150          155

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<210> 5379  
 <211> 71  
 <212> PRT  
 <213> B.fragilis

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<400> 5379
Arg Lys Pro Ile Asn Asn Gln Ile Val Ile Asn Phe Tyr Phe Trp Leu
1          5          10          15
Leu Val Glu Lys Ala Ser Ile Met Gly His Val Leu Leu Arg Leu Pro
          20          25          30
Leu Leu Ile Arg Tyr Leu Ala Ser Thr Asp Ile Ser Arg Ser Ile Asn
          35          40          45
Asp Tyr Phe Ser Met Leu Cys Val Thr Phe His Asn Phe Lys Lys Leu
          50          55          60
Asn Ile Tyr Leu Val Cys Asn
65          70

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<210> 5380



<211> 174  
 <212> PRT  
 <213> B.fragilis

<400> 5380

Arg	Val	Gly	Met	Cys	Phe	Gly	Tyr	Ser	Leu	Asn	Gly	Leu	Cys	Ser	Phe
1				5					10					15	
Lys	Arg	Gly	Ile	Met	Lys	Leu	Ile	Thr	Glu	Gly	Leu	Leu	Asp	Lys	Val
			20					25					30		
Thr	Asp	Gln	Ala	Lys	Glu	Asn	Ser	Arg	Leu	Arg	Met	Asn	Tyr	Asn	Phe
		35					40					45			
His	Asp	Ser	Met	Asp	Ala	Pro	Ile	His	Arg	Met	Leu	Asn	Ala	Leu	Glu
	50					55					60				
Pro	Gly	Thr	Tyr	Leu	Pro	Pro	His	Arg	His	Lys	Asn	Pro	Asp	Lys	Glu
65				70						75					80
Glu	Val	Tyr	Leu	Val	Leu	Arg	Gly	Ser	Leu	Leu	Ala	Ile	Leu	Phe	Asp
			85					90						95	
Asp	Glu	Gly	Asn	Val	Thr	Glu	Lys	Val	His	Leu	Asn	Pro	Ala	Glu	Gly
			100					105					110		
His	Tyr	Gly	Ile	Glu	Ile	Pro	Pro	Cys	Val	Trp	His	Thr	Ile	Val	Val
	115					120						125			
Leu	Glu	Ser	Gly	Thr	Val	Ile	Tyr	Glu	Ile	Lys	Gln	Gly	Pro	Phe	Ala
	130					135					140				
Pro	Leu	Ile	Pro	Glu	Asn	Leu	Ala	Ser	Trp	Ala	Pro	Pro	Ala	Thr	Asp
145				150						155					160
Glu	Glu	Ala	Ala	Arg	Val	Phe	Met	Gln	Arg	Met	Leu	Glu	Leu		
				165				170							

<210> 5381  
 <211> 325  
 <212> PRT  
 <213> B.fragilis

<400> 5381

Ser	Arg	Leu	Val	Asn	Phe	Gln	Tyr	Leu	His	Arg	Tyr	Pro	Phe	Ile	Arg
1				5					10					15	
Leu	Leu	Phe	Pro	Leu	Ile	Ala	Gly	Phe	Leu	Val	Gly	Asn	Gly	Leu	Phe
			20					25					30		
Phe	Arg	Gly	Val	Cys	Val	Ser	Lys	Gly	Val	Leu	Ala	Gly	Gly	Leu	Ala
		35					40					45			
Gly	Leu	Phe	Leu	Leu	Leu	Leu	Val	Val	Tyr	Phe	Ser	His	Arg	Tyr	Ser
	50					55					60				
Leu	Arg	Trp	Met	Phe	Gly	Cys	Ile	Leu	Tyr	Leu	Phe	Val	Phe	Phe	Gly
65				70					75						80
Gly	Ala	Gly	Gly	Ile	Asn	Gln	Ala	Leu	Gln	Gln	Thr	Leu	Tyr	Ser	Phe
			85					90					95		
Ser	Glu	Gln	Lys	Cys	Val	Tyr	Arg	Ala	Val	Val	Leu	Glu	Gln	Pro	Glu
			100					105					110		
Pro	Lys	Glu	His	Ser	Phe	Leu	Cys	Arg	Ala	Phe	Leu	Glu	Glu	Arg	Gln
	115					120						125			
Asp	Ser	Val	Cys	Thr	Met	Pro	Val	Asn	Arg	Lys	Val	Leu	Leu	Tyr	Ile
	130					135					140				
Ser	Lys	Asp	Ser	Leu	Ser	Glu	Gly	Leu	Arg	Ser	Gly	Asp	Glu	Leu	Ile
145				150						155					160
Phe	Phe	Ala	His	Val	Ser	Pro	Pro	Ser	Asn	Asn	Gly	Asn	Pro	Asp	Glu
				165				170					175		
Phe	Asp	Tyr	Ala	Arg	Tyr	Leu	Arg	Tyr	Lys	Gly	Ile	Ser	Gly	Ile	Ala
			180					185					190		
Phe	Val	Ala	Ser	Gly	Asn	Trp	Lys	Ile	Thr	Gly	Tyr	Arg	Phe	Ser	Arg

195	200	205
Ser Cys Arg Gln Ile Ala Leu Glu Tyr Arg Asp Arg Ile Leu Asp Gln		
210	215	220
Tyr Arg Ala Leu Lys Phe Asn Pro Asp Glu Phe Ala Val Leu Ala Ala		
225	230	235
Leu Thr Val Gly Tyr Lys Glu Glu Leu Ser Glu Asp Ile Arg Glu Thr		
245	250	255
Tyr Ser Val Ser Gly Ala Ser His Val Leu Ala Leu Ser Gly Leu His		
260	265	270
Ile Gly Phe Leu Tyr Met Met Leu Leu Phe Phe Leu Lys Trp Leu Pro		
275	280	285
Gly Asn Ala Phe Gly Val Arg Leu Phe Arg Ala Val Val Ile Ile Thr		
290	295	300
Ala Leu Trp Gly Phe Ala Phe Phe Thr Gly Leu Ser Pro Ser Val Val		
305	310	315
Arg Ser Val Val Phe		320
325		

&lt;210&gt; 5382

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5382

Leu Ile Ile Val Leu Thr Met Ala His Tyr Asn Asn Asn Ser Asn Arg		
1	5	10
Ile Leu Gln Ala Val Leu Ala Asp Glu Lys Leu Ile Glu Phe Gly Glu		
20	25	30
Tyr Asn Pro Ala Asp Tyr Gln Ser Leu Asp Glu Ala Leu Val Ser Asp		
35	40	45
Asn Leu Val Val Asn Thr Val Ala Arg Ile Ile Asn Glu Val Asn Glu		
50	55	60
Glu Ser Ser Ser Arg Glu Ile Tyr Asn Met Val Thr Thr Tyr Leu Lys		
65	70	75
Asn Asn Ile		80

&lt;210&gt; 5383

&lt;211&gt; 204

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5383

Lys Met Asn Val Asn Ile Thr Ala Val Leu Leu Lys Ser Leu Phe Asp		
1	5	10
His Ile Val Ala Phe Leu Gly Leu Leu Phe Leu Ser Pro Ile Leu Leu		
20	25	30
Val Thr Ala Ile Leu Ile Arg Val Lys Met Pro Gly Gly Pro Val Ile		
35	40	45
Phe Lys Gln Lys Arg Val Gly Arg Tyr Gly Arg Leu Phe Thr Met Tyr		
50	55	60
Lys Phe Arg Ser Met Thr Val Gly His Ser Gly Gly Ser Val Ser Val		
65	70	75
Lys Gly Glu Ser Arg Ile Thr Pro Leu Gly Ala Lys Leu Arg Lys Tyr		
85	90	95
Lys Ile Asp Glu Leu Pro Glu Leu Trp Asn Val Leu Ile Gly Asp Met		
100	105	110
Ser Leu Val Gly Pro Arg Pro Asp Val Pro Gly Tyr Ala Asp Asn Leu		
115	120	125

Leu Gly Asp Asp Arg Arg Met Leu Leu Leu Lys Pro Gly Ile Thr Gly  
 130 135 140  
 Pro Ala Ser Leu Lys Tyr Arg Asn Glu Glu Glu Leu Leu Ala Gly Gln  
 145 150 155 160  
 Asp Asn Pro Gln Lys Tyr Asn Asp Glu Val Leu Phe Pro Asp Lys Val  
 165 170 175  
 Arg Ile Asn Ile Glu Tyr Leu Asp Asn Trp Ser Phe Trp Asn Asp Ile  
 180 185 190  
 Lys Ile Ile Val Tyr Thr Val Phe Gly Lys Asp Met  
 195 200

<210> 5384

<211> 308

<212> PRT

<213> B.fragilis

<400> 5384

Glu Pro Ile Val Glu Arg Trp Gln Gly Ala His Tyr Gly Thr Tyr Asn  
 1 5 10 15  
 Asp Gln Gln Asp His Arg Leu Leu Gln Leu Gln Ala Glu Val Ser Leu  
 20 25 30  
 Ala Leu Trp Asp Ala Lys Ala Lys Arg Ala Lys Gly Lys Ser Asp Glu  
 35 40 45  
 Ala Arg Arg Leu Asn Gln Glu Leu Asp Asn Val Lys Ala Gln Ile Thr  
 50 55 60  
 Arg His Tyr Gln Tyr Val Cys Asp His Asp Ser Leu Val Thr Ala Lys  
 65 70 75 80  
 Ser Val Tyr Asn Arg Tyr Leu Gly Phe Gly Asp Asp Tyr His Thr Leu  
 85 90 95  
 Met Gly Leu Phe Arg Glu Gln Leu Ala Ser Tyr Lys Glu Lys Ile Gly  
 100 105 110  
 Lys Glu Lys Ala Ala Ser Thr Tyr Arg Gly Leu Val Ala Asp Tyr Lys  
 115 120 125  
 Asn Leu Gln Leu Phe Leu Lys Glu Lys Arg Arg Ile Glu Asp Ile Ala  
 130 135 140  
 Ile Ala Glu Leu Asp Lys Lys Phe Ile Glu Asp Tyr Tyr Asn Trp Met  
 145 150 155 160  
 Leu Gly Thr Cys Ala Leu Ala Ser Ser Thr Ala Phe Gly Arg Gly Asn  
 165 170 175  
 Thr Leu Lys Trp Leu Met Tyr Thr Ala Gln Glu Arg Gly Trp Ile Arg  
 180 185 190  
 Leu His Pro Phe Ile Gly Phe Asp Cys Leu Ser Glu Tyr Lys Trp Arg  
 195 200 205  
 Ser Phe Leu Thr Glu Glu Asp Leu Gln Ser Val Ile His Val Lys Leu  
 210 215 220  
 Asn Tyr Lys Arg Gln Arg Ala Ile Arg Asp Met Phe Leu Phe Met Cys  
 225 230 235 240  
 Phe Thr Gly Leu Ala Tyr Ala Asp Leu Lys Glu Ile Thr Tyr Lys Asn  
 245 250 255  
 Ile His Thr Asp Ser Glu Gly Gly Thr Trp Leu Ile Gly Asn Arg Ile  
 260 265 270  
 Lys Thr Asp Val Ala Tyr Val Val Lys Leu Leu Pro Ile Thr Ile Glu  
 275 280 285  
 Leu Val Glu Arg Tyr Arg Gly Thr Met Lys Arg Lys Val Arg Leu Thr  
 290 295 300  
 Arg Cys Phe Pro  
 305

<210> 5385

<211> 82  
 <212> PRT  
 <213> B.fragilis

<400> 5385

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Asn Ile Leu Leu Ile Lys Arg Asp Ser Lys Asp Leu Leu Asn Lys Ile
1           5           10           15
His Ser Leu Leu Leu Leu Ile Lys Asn Asn Arg Glu Thr Ser Phe His
           20           25           30
Leu Ile Asn Pro Lys Leu Ile Asn Lys Leu Thr Ile Phe Val Asp Ile
           35           40           45
Thr Lys Ile Ile Asn Leu Tyr Glu Thr Thr Ser Phe Lys Arg Asn Arg
           50           55           60
Thr Arg Tyr Gln Lys Arg Ser Ser Gln Lys Glu Asn Tyr Tyr Thr Leu
65           70           75           80
Tyr Ile

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<210> 5386  
 <211> 190  
 <212> PRT  
 <213> B.fragilis

<400> 5386

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Ile Met Gln Leu Leu Lys Lys Arg Ile Leu Gln Asp Gly Lys Cys Tyr
1           5           10           15
Glu Gly Gly Ile Leu Lys Val Asp Ser Phe Ile Asn His Gln Met Asp
           20           25           30
Pro Val Leu Met Lys Ser Ile Gly Val Glu Phe Val Arg Leu Phe Ala
           35           40           45
Gly Thr Asn Val Asn Lys Ile Met Thr Ile Glu Ala Ser Gly Ile Ala
           50           55           60
Pro Ala Ile Met Thr Gly Tyr Leu Met Asp Leu Pro Val Val Phe Ala
65           70           75           80
Lys Lys Lys Ser Pro Arg Thr Ile Gln Asn Ala Leu Ser Thr Thr Val
           85           90           95
His Ser Phe Thr Lys Asp Arg Asp Tyr Glu Val Val Ile Ser Ser Asp
           100          105          110
Phe Leu Thr Pro Lys Asp Asn Val Leu Phe Val Asp Asp Phe Leu Ala
           115          120          125
Tyr Gly Asn Ala Ala Leu Gly Val Ile Asp Leu Ile Lys Gln Ser Gly
           130          135          140
Ala Asn Leu Val Gly Met Gly Phe Ile Ile Glu Lys Ala Phe Gln Asn
145          150          155          160
Gly Arg Lys Thr Leu Glu Glu Arg Gly Val Arg Val Glu Ser Leu Ala
           165          170          175
Ile Ile Glu Asp Leu Ser Asn Cys Arg Ile Thr Ile Lys Asp
           180          185          190

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<210> 5387  
 <211> 67  
 <212> PRT  
 <213> B.fragilis

<400> 5387

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Asp Ile Phe Ser Asn Ser Leu Ser Thr Gln Ala Val Phe Gln Gly Glu
1           5           10           15
Asp Glu Ala Gly Phe Ala Ser Ala Val Arg Ala Asp Glu Ala Lys Arg
           20           25           30

```

Met Asn Ala Thr Gly Lys Val Ile Asp Asn Phe Ala Asp Gly Leu Ala  
 35 40 45  
 Ser Ile Gly Ser Asp Asp Ile Val Gly Tyr Leu Ala Lys Val Thr Leu  
 50 55 60  
 Tyr Val Asp  
 65

<210> 5388

<211> 123

<212> PRT

<213> B.fragilis

<400> 5388

Tyr Phe Ala Ser Phe Tyr Phe Phe Arg Asp Lys Ile Tyr Phe Ile Phe  
 1 5 10 15  
 Phe Leu Arg Thr Tyr Glu Gly Ile Pro Lys Arg Ala Ile Glu Pro Glu  
 20 25 30  
 Phe Ser Ser Phe Arg Asn Ser Tyr Lys Ser Glu Glu His Asn Lys Phe  
 35 40 45  
 Gln Glu Leu Val Lys Lys Tyr Gly Phe Tyr Pro Glu Leu Cys Asp Thr  
 50 55 60  
 Cys Arg Lys Gly Asn Leu Lys Ile Lys Ser Lys Arg Arg Phe Tyr  
 65 70 75 80  
 Lys Ser Leu Cys Gly Gly Met Thr Arg Asp Leu Leu Ile Lys Pro Phe  
 85 90 95  
 Phe Val Tyr Lys Gly Leu Ser Phe Asn Ser Ile Cys Val Thr Glu Pro  
 100 105 110  
 Gly Arg Thr Val Arg Pro Ala Asp His Ile Ser  
 115 120

<210> 5389

<211> 335

<212> PRT

<213> B.fragilis

<400> 5389

Ile Asn Lys Ser Ile Met Val Lys Ile Ile Leu Gly Val Leu Ser Leu  
 1 5 10 15  
 Leu Val Met Leu Ser Cys Ser Thr Ala Val Lys Glu Asn Thr Thr Gln  
 20 25 30  
 Pro Asp Ile Met Glu Thr Asn Lys Lys Asn Leu Gly Asn Leu Leu Ala  
 35 40 45  
 Leu Tyr Pro Lys Pro Met Thr Val Val Gly Ala Glu Val Glu Gly Lys  
 50 55 60  
 Val Asn Trp Leu Val Val Gly His Thr Gly Val Ile Gly His Asp Arg  
 65 70 75 80  
 Ile Leu Val Ser Met Ser Lys Ser His Tyr Thr Asn Gln Gly Val Lys  
 85 90 95  
 Lys Ser Lys Arg Leu Ser Val Asn Leu Val Ser Arg Glu Met Leu Pro  
 100 105 110  
 Lys Ala Asp Tyr Val Gly Ser Val Ser Gly Ala Thr Val Asp Lys Ser  
 115 120 125  
 Glu Val Phe Ala Tyr His Ile Gly Glu Asn Asp Thr Pro Val Ile Asp  
 130 135 140  
 Ala Ser Pro Leu Thr Met Glu Cys Glu Val Val Asp Ile Tyr Glu Thr  
 145 150 155 160  
 Asp Gly Phe Asp Asn Phe Ile Cys Ala Ile Val Asn Thr Tyr Ala Ala  
 165 170 175  
 Ser Asp Val Leu Asp Ser Asp Gly Lys Leu Asp Tyr Thr Lys Leu Lys

Pro	Val	Leu	180	Phe	Glu	Phe	Pro	Thr	185	Tyr	Ser	Tyr	Leu	190	Ala	Thr	Gly	Glu
		195						200						205				
Ile	Ile	Gly	Lys	Cys	Leu	Asn	Pro	Asp	Lys	Pro	Gly	Met	Cys	Val	Lys			
	210					215					220							
Glu	Pro	Met	Thr	Thr	Asp	Gly	Ile	Val	Arg	Leu	Ser	Lys	Ile	Glu	Val			
225					230					235					240			
Tyr	Pro	Gln	Tyr	Leu	Asp	Glu	Tyr	Met	Asn	Tyr	Ala	Thr	Glu	Val	Gly			
				245					250					255				
Glu	Ile	Ser	Leu	Arg	Thr	Glu	Pro	Gly	Val	Leu	Thr	Met	Tyr	Ala	Val			
			260					265					270					
Gly	Glu	Lys	Glu	Asn	Pro	Cys	Lys	Val	Thr	Ile	Leu	Glu	Thr	Tyr	Ala			
		275					280					285						
Ser	Arg	Glu	Ala	Tyr	Glu	Gln	His	Ile	Ala	Ser	Glu	His	Phe	Gln	Lys			
	290					295					300							
Tyr	Lys	Gln	Gly	Thr	Leu	His	Met	Val	Lys	Ser	Leu	Val	Leu	Ser	Asp			
305					310					315					320			
Gln	Thr	Pro	Leu	Asn	Pro	Ala	Asn	Lys	Leu	Asn	Asn	Phe	Met	Gln				
			325					330						335				

&lt;210&gt; 5390

&lt;211&gt; 415

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5390

Lys	Lys	Glu	Ser	Met	Asn	Lys	Glu	Ile	Asp	Ile	Lys	Asp	Met	Ala	Pro
1				5					10					15	
Val	Lys	Ala	Ser	Glu	Arg	His	Val	Ile	Leu	Asp	Ala	Leu	Arg	Gly	Phe
		20						25					30		
Ala	Leu	Leu	Val	Ile	Cys	Phe	Ala	Asn	Phe	Pro	Glu	Phe	Ser	Leu	Tyr
		35					40					45			
Thr	Phe	Gln	Lys	Pro	Glu	Ile	Thr	Glu	Ala	Met	Pro	Thr	Ala	Glu	Ile
	50					55					60				
Asp	Lys	Val	Ile	Arg	Phe	Pro	Gln	Tyr	Leu	Phe	Val	Asp	Gly	Lys	Phe
65					70					75					80
Tyr	Thr	Ile	Phe	Ser	Leu	Leu	Phe	Gly	Ile	Gly	Phe	Ser	Ile	Ile	Ile
			85					90						95	
Ser	Asn	Ala	Ala	Lys	Lys	Gly	Thr	Asp	Gly	Phe	Arg	Ile	Phe	Tyr	Arg
		100						105					110		
Arg	Met	Ile	Val	Leu	Ala	Ala	Ile	Gly	Phe	Leu	His	Leu	Met	Phe	Ile
		115					120					125			
Trp	Ser	Gly	Asp	Ile	Leu	Leu	Leu	Tyr	Ala	Leu	Leu	Gly	Met	Leu	Leu
	130					135						140			
Pro	Leu	Phe	Arg	His	Val	Ser	Asp	Arg	Val	Leu	Leu	Gly	Thr	Ser	Ala
145					150					155					160
Val	Leu	Leu	Leu	Leu	Pro	Ile	Leu	Ile	Asp	Trp	Leu	Ala	Gly	Thr	Phe
			165						170					175	
Gly	Val	Ser	Arg	Ser	Ser	Pro	Ala	Val	Arg	Met	Gln	Gln	His	Tyr	Cys
			180					185					190		
Asn	Leu	Tyr	Gly	Ile	Thr	Glu	Tyr	Asn	Phe	Gly	Ile	Trp	Leu	Arg	Asp
	195						200					205			
Ala	Glu	Asn	Tyr	Gly	Gly	Val	Phe	Gln	Phe	Leu	Val	Gln	Gly	Ala	Trp
	210					215						220			
Val	Arg	Leu	Gln	Glu	Phe	Ile	Asp	Gly	Asn	Arg	Tyr	Phe	Lys	Val	Leu
225					230					235					240
Gly	Leu	Phe	Leu	Leu	Gly	Phe	Tyr	Ile	Gly	Arg	Lys	Gln	Ile	Tyr	Ala
			245						250					255	
Asp	Leu	Glu	Ala	Asn	Arg	Val	Leu	Leu	Lys	Lys	Thr	Val	Thr	Tyr	Gly

260	265	270
Phe Leu Leu Gly Leu Pro Leu Ser Val Leu Tyr Ala Trp Ser Ala Val		
275	280	285
Asn Gly His Pro Phe Gly Thr Ala Ala His Thr Ala Ile Tyr Thr Ala		
290	295	300
Ser Val Tyr Pro Leu Gly Phe Ala Tyr Val Ser Ala Ile Cys Leu Leu		
305	310	315
Tyr Leu His Gly Arg Glu Trp Arg Leu Trp Arg Cys Leu Ala Ala Pro		
325	330	335
Gly Arg Met Ala Leu Thr Asn Tyr Val Gly Gln Ser Val Trp Gly Met		
340	345	350
Val Leu Phe Tyr Gly Ile Gly Phe Gly Leu Gly Ala Gly Ile Gly Leu		
355	360	365
Thr Gly Thr Glu Ser Ile Ala Phe Tyr Val Phe Leu Val Gln Met Ala		
370	375	380
Phe Ser Ala Leu Trp Leu Ser Tyr Phe Arg Phe Gly Pro Leu Glu Trp		
385	390	395
Gly Trp Arg Met Leu Thr Tyr Gly Lys Trp Leu Lys Ile Arg Lys		
405	410	415

<210> 5391  
 <211> 75  
 <212> PRT  
 <213> B.fragilis

<400> 5391
Ala Val Cys Pro Leu Leu Glu Val Leu Pro His Asn Leu Ser Val Trp
1 5 10 15
Phe Leu Ser Gly Asn Thr Phe Val Gly Tyr Ala Asp Gln His Pro Leu
20 25 30
Val Ser Val Ile Asp Tyr Asp Thr Val Thr Pro Ile Leu His Thr His
35 40 45
Ser Gln Phe Ser Val Tyr Ala Leu Tyr Lys Gly Met Gly Val Thr Leu
50 55 60
Leu Ser Gly Leu Val Ala Trp Asn Ser Val Gly
65 70 75

<210> 5392  
 <211> 78  
 <212> PRT  
 <213> B.fragilis

<400> 5392
Ile Thr Ile Pro Ser Arg Pro Ser Cys Ile Arg Thr Ala Asn Phe Gln
1 5 10 15
Ser Met His Phe Ile Lys Gly Trp Ala Leu Leu Phe Ser Pro Asp Leu
20 25 30
Leu His Gly Thr Pro Leu Gly Asn His Ile Lys Asp Phe Ser Phe Phe
35 40 45
Ser Tyr Gln Ser Asn Glu Ala Gly Glu His Ile Arg Cys His Ile Ile
50 55 60
Asp Met Ala Lys Ser Lys Leu Ile Asn Gly Glu Gln Ile Met
65 70 75

<210> 5393  
 <211> 208  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5393

```

Ile Leu Lys Pro Thr Arg Asn Met Glu Ile Thr Asn Ala Glu Phe Val
1      5      10      15
Ile Ser Asn Thr Asp Val Lys Lys Cys Pro Ala Gly Thr Phe Pro Glu
20      25      30
Tyr Ala Phe Ile Gly Arg Ser Asn Val Gly Lys Ser Ser Leu Ile Asn
35      40      45
Met Leu Thr Gly Arg Lys Gly Leu Ala Met Thr Ser Ala Thr Pro Gly
50      55      60
Lys Thr Met Leu Ile Asn His Phe Leu Ile Asn Asn Ser Trp Tyr Leu
65      70      75      80
Val Asp Leu Pro Gly Tyr Gly Tyr Ala Arg Arg Gly Gln Lys Gly Gln
85      90      95
Glu Gln Ile Arg Thr Ile Ile Glu Asp Tyr Ile Leu Glu Arg Glu Gln
100     105     110
Met Thr Asn Leu Phe Val Leu Ile Asp Ser Arg Leu Glu Pro Gln Lys
115     120     125
Ile Asp Leu Glu Phe Met Glu Trp Leu Gly Glu Asn Gly Ile Pro Phe
130     135     140
Ala Ile Ile Phe Thr Lys Ala Asp Lys Leu Lys Gly Gly Arg Leu Lys
145     150     155     160
Ile Asn Ile Ser Ala Tyr Leu Arg Glu Leu Arg Lys Gln Trp Glu Glu
165     170     175
Leu Pro Pro Tyr Phe Ile Thr Ser Ser Glu Glu Arg Leu Gly Arg Thr
180     185     190
Glu Val Leu Asn Tyr Ile Lys Ser Ile Asn Lys Glu Leu Asn Ser Lys
195     200     205

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&lt;210&gt; 5394

&lt;211&gt; 175

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5394

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Lys Asn Lys Thr Met Gln Asn Ile Ile Ile Thr Phe Ile Ala Phe Phe
1      5      10      15
Val Leu Arg Leu Leu Ser Leu Ser Tyr Ser Ile Arg Asn Glu Lys Arg
20      25      30
Leu Leu Lys Ser Gly Ala Val Gln Tyr Gly Lys Val Asn Ser Leu Leu
35      40      45
Leu Thr Leu Ala His Ile Val Tyr Tyr Phe Ser Ala Leu Tyr Glu Ala
50      55      60
Tyr Thr Ser Gly Thr Thr Phe Asn Tyr Phe Ser Val Cys Gly Val Phe
65      70      75      80
Ile Met Gly Phe Ala Tyr Ala Met Leu Phe Tyr Val Ile Tyr Lys Leu
85      90      95
His Asp Val Trp Thr Val Lys Leu Tyr Ile Ile Pro Asp His Arg Ile
100     105     110
Glu Lys Ser Phe Leu Phe Arg Thr Val Arg His Pro Asn Tyr Tyr Leu
115     120     125
Asn Ile Ile Pro Glu Leu Ile Gly Ile Ala Leu Leu Cys Asn Ala Trp
130     135     140
Tyr Thr Leu Leu Ile Gly Leu Pro Ile Tyr Ala Cys Leu Leu Ala Ile
145     150     155     160
Arg Ile Arg Gln Glu Glu Arg Ala Met Lys Glu Leu Leu Glu Asn
165     170     175

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&lt;210&gt; 5395

&lt;211&gt; 495



&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5395

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Asn Ser Gly Thr Arg Lys Leu Val Ser Gln Thr Asn Ala Leu Val His
1      5      10      15
Asn Leu Met Gly Thr Gly Lys Gly Lys Thr Asp Tyr Leu Leu Ser Leu
20      25      30
Ile Arg Glu Gly Lys Gln Met Thr Leu Gly Gln Gln Leu Arg Leu Thr
35      40      45
Ala Tyr Leu Ser Val Pro Ala Ile Met Ala Gln Ile Ser Ser Ile Ala
50      55      60
Met Gln Tyr Ile Asp Ala Ser Met Val Gly Ser Leu Gly Ala Asn Ala
65      70      75      80
Ala Ala Ser Ile Gly Leu Val Ser Thr Thr Thr Trp Leu Phe Trp Glu
85      90      95
Leu Cys Ala Ala Ala Ala Thr Gly Phe Ser Val Gln Val Ala His Lys
100     105     110
Ile Gly Ala Gly Asp Phe Val Gly Ala Arg Lys Ile Leu Arg Gln Ser
115     120     125
Ile Ala Ala Thr Leu Val Phe Ser Ser Leu Leu Ala Ala Val Gly Ile
130     135     140
Ser Ile Ser Gly Met Leu Pro Gly Trp Leu Gly Gly Asp Glu Val Ile
145     150     155     160
Arg Ser Asp Ser Ser Leu Tyr Phe Trp Ile Phe Ala Leu Phe Leu Pro
165     170     175
Ala Leu Gln Leu Asn Phe Leu Ala Gly Gly Met Leu Arg Cys Ser Gly
180     185     190
Asn Met Arg Val Pro Ser Met Leu Asn Val Leu Met Cys Leu Leu Asp
195     200     205
Ile Val Phe Asn Phe Phe Leu Ile Phe Pro Ser Arg Gln Val Glu Trp
210     215     220
Phe Gly Val Thr Phe Thr Thr Pro Gly Ala Gly Leu Gly Val Glu Gly
225     230     235     240
Ala Ile Leu Gly Thr Val Leu Ala Glu Leu Ile Thr Ala Gly Gly Met
245     250     255
Met Trp Tyr Leu Cys Arg Arg Ser Pro Met Leu Arg Leu Ser Gly Glu
260     265     270
Arg Gly Ser Phe Leu Pro Arg Lys Glu Thr Leu Ser Lys Ala Phe Arg
275     280     285
Ile Ser Leu Pro Met Gly Phe Glu His Met Ala Ile Cys Gly Ala Gln
290     295     300
Ile Ala Thr Thr Val Ile Val Ala Pro Leu Gly Ile Ile Ala Ile Ala
305     310     315     320
Ala Asn Ser Phe Ala Ile Thr Ala Glu Ser Leu Cys Tyr Met Pro Gly
325     330     335
Tyr Gly Ile Ser Glu Ala Ala Thr Thr Leu Val Gly Gln Ser Leu Gly
340     345     350
Ala Asn Arg Ile Arg Leu Leu Arg Arg Phe Ala Asn Ile Thr Val Trp
355     360     365
Ser Gly Met Leu Ile Met Gly Val Met Gly Thr Leu Met Tyr Met Ala
370     375     380
Ala Pro Gln Ile Ile Gly Val Met Thr Pro Val Glu Glu Ile Arg Thr
385     390     395     400
Leu Gly Ile Glu Ile Leu Arg Ile Glu Ala Phe Ala Glu Pro Met Phe
405     410     415
Ala Ala Ser Ile Val Ala Tyr Gly Ile Phe Val Gly Val Gly Asn Thr
420     425     430
Phe Val Pro Ser Leu Met Asn Phe Gly Ser Ile Trp Gly Val Arg Leu

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435	440	445
Thr Leu Ala Ala Trp Leu Ala Pro Thr Met Gly Leu Arg Gly Val Trp		
450	455	460
Phe Ala Met Cys Ile Glu Leu Cys Phe Arg Gly Val Ile Phe Leu Ala		
465	470	475
Arg Leu Trp Gly Ser Asn Trp Ile Tyr Lys Leu Arg Ile Asn Arg		
485	490	495

&lt;210&gt; 5396

&lt;211&gt; 360

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5396

Asn Asn Thr Ala Met Lys Leu Gln Ala Ile Ala Ile Leu Thr Phe Leu		
1	5	10
Thr Phe Ala Asn Val Met Ala Gln Glu Thr Thr Thr Thr Lys Tyr Ile		
20	25	30
Asn Ser Thr Asp Met Glu Ala Leu Lys Leu Thr Gln Glu Trp Asp Lys		
35	40	45
Thr Phe Pro Gln Ser Asp Lys Val Glu His Thr Lys Ile Thr Phe His		
50	55	60
Asn Arg Tyr Gly Ile Thr Leu Ala Ala Asp Leu Tyr Lys Pro Lys Asn		
65	70	75
Thr Gln Gly Arg Leu Ala Ala Ile Ala Val Ser Gly Pro Tyr Gly Ala		
85	90	95
Val Lys Glu Gln Val Ser Gly Arg Tyr Ala Gln Thr Leu Ala Glu Arg		
100	105	110
Gly Phe Leu Thr Ile Ala Phe Asp Pro Ser Tyr Tyr Gly Glu Ser Gly		
115	120	125
Gly Thr Pro Arg Tyr Leu Thr Ser Pro Glu Ile Ser Thr Glu Asp Phe		
130	135	140
Ser Ala Ala Val Asp Tyr Leu Thr Ser Arg Ala Asp Val Asp Pro Glu		
145	150	155
Arg Ile Gly Ile Leu Gly Ile Cys Gly Trp Gly Gly Phe Ala Leu Asn		
165	170	175
Ala Ala Ala Asn Asp Pro Arg Ile Lys Ala Thr Val Thr Ser Thr Met		
180	185	190
Tyr Asp Met Ser Arg Val Asn Ala Asn Gly Tyr Phe Asp Ala Met Ser		
195	200	205
Ser Asp Asp Arg Tyr Lys Leu Arg Glu Gln Leu Asn Ala Gln Arg Thr		
210	215	220
Glu Asp Tyr Arg Asp Asp Ser Tyr Val Arg Asp Gly Gly Val Leu Asp		
225	230	235
Pro Val Thr Asp Asp Thr Pro Gln Phe Val Lys Glu Tyr His Asp Tyr		
245	250	255
Tyr Lys Thr Glu Arg Gly Tyr His Arg Arg Ser Pro Asn Ser Asn Glu		
260	265	270
Gly Ile Thr Lys Thr Ser Val Leu Ala Phe Ile Asn Met Pro Leu Leu		
275	280	285
Thr Tyr Ile Ser Glu Ile Arg Ser Ala Val Leu Met Ile His Gly Glu		
290	295	300
Lys Ala His Ser Arg Tyr Phe Ser Glu Asp Ala Tyr Lys Arg Leu Thr		
305	310	315
Gly Ser Asn Lys Glu Leu Leu Ile Ile Pro Gly Ala Asn His Val Asp		
325	330	335
Leu Tyr Asp Asn Leu Asn Val Ile Pro Phe Asp Lys Ile Asp Ala Phe		
340	345	350
Phe Lys Asn Ala Leu Lys Glu Lys		

360

<400> 5397

<210> 5398

&lt;212&gt; PRT

<400> 5398

Val	Met	Arg	Tyr	Asp	Phe	Asp	Thr	Ile	Val	Pro	Arg	Arg	Gly	Thr	Asn
1				5					10					15	
Ser	Tyr	Lys	Trp	Asp	Thr	Pro	Glu	Glu	Lys	Asn	Val	Leu	Pro	Met	Trp
			20				25						30		
Val	Ala	Asp	Met	Asp	Phe	Arg	Thr	Ala	Pro	Ala	Ile	Val	Glu	Ala	Leu
			35				40					45			
Gln	Arg	Arg	Val	Ala	His	Gly	Ile	Phe	Gly	Tyr	Thr	Lys	Val	Pro	Glu
	50					55					60				
Thr	Tyr	Tyr	Asp	Ala	Val	Val	Arg	Trp	Phe	Glu	Ser	Arg	His	Arg	Trp
65				70					75					80	
Gln	Ile	Asp	Pro	Arg	Trp	Ile	Ile	Tyr	Thr	Ser	Gly	Val	Val	Pro	Ala
			85					90						95	
Leu	Ser	Ala	Ile	Ile	Lys	Ala	Leu	Thr	Ala	Pro	Gly	Asp	Lys	Val	Ile
			100					105					110		
Val	Gln	Thr	Pro	Ala	Tyr	Asn	Cys	Phe	Tyr	Ser	Ser	Ile	Arg	Asn	Asp
		115					120					125			

Gly Cys Glu Leu Ser Ala Asn Asn Leu Ile Tyr Arg Asp Gly Arg Tyr  
 130 135 140  
 Met Ile Asp Phe Asp Asp Leu Ala Ala Lys Ala Asp Pro Lys Ala  
 145 150 155 160  
 Lys Ile Leu Leu Leu Cys Asn Pro His Asn Pro Val Gly Arg Val Trp  
 165 170 175  
 Thr Pro Glu Glu Leu Arg His Ile Gly Asp Ile Cys Leu Arg Asn Gly  
 180 185 190  
 Val Phe Val Val Ala Asp Glu Ile His Cys Glu Leu Thr Tyr Glu Gly  
 195 200 205  
 His Asp Tyr Thr Pro Phe Ala Ser Leu Ser Glu Arg Phe Gln Gln Asn  
 210 215 220  
 Ser Val Thr Cys Ile Ser Pro Ser Lys Ala Phe Asn Leu Ala Gly Leu  
 225 230 235 240  
 Gln Ile Ala Asn Ile Ile Ala Leu Asp Glu Glu Val Arg Arg Arg Ile  
 245 250 255  
 Asp Arg Ala Ile Asn Ile Asn Glu Val Cys Asp Val Asn Pro Phe Gly  
 260 265 270  
 Val Ile Ala Thr Ile Ala Ala Tyr Asn Glu Gly Gly Glu Trp Leu Asp  
 275 280 285  
 Ala Leu Arg Lys Tyr Leu Arg Gly Asn Tyr Glu Tyr Leu Cys His Phe  
 290 295 300  
 Phe Ala Glu Arg Leu Pro Gln Tyr Pro Val Leu Pro Leu Glu Gly Thr  
 305 310 315 320  
 Tyr Leu Val Trp Ile Asp Cys Arg Ala Leu Gly Ile Gly Ser Asp Ala  
 325 330 335  
 Thr Thr Leu His Leu Gln Glu Gln Gln Lys Leu Met Val Asn Ser Gly  
 340 345 350  
 Thr Met Tyr Gly Pro Ser Gly Glu Gly Phe Ile Arg Leu Asn Ile Ala  
 355 360 365  
 Cys Pro Arg Thr Leu Leu Ala Asp Gly Leu Glu Arg Met Ala Arg Val  
 370 375 380  
 Leu Glu Cys Cys  
 385

&lt;210&gt; 5399

&lt;211&gt; 204

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5399

Lys Gln Gly Tyr Gln Met Lys Arg Lys Leu Leu Ser Phe Ala Val Leu  
 1 5 10 15  
 Ile Thr Leu Leu Leu Val Pro Thr Val Asn Arg Ala Gln Ser Ile Lys  
 20 25 30  
 Asp Leu Phe Asn Lys Asp Asn Ile Ser Lys Val Val Asn Ala Val Thr  
 35 40 45  
 Gly His Thr Glu Thr Val Asp Met Thr Gly Thr Trp Arg Tyr Thr Gly  
 50 55 60  
 Ser Ala Ile Glu Phe Glu Ser Glu Asn Leu Leu Lys Lys Ala Gly Gly  
 65 70 75 80  
 Thr Val Ala Ala Ser Ala Ala Glu Gln Lys Leu Asp Glu Gln Leu Ala  
 85 90 95  
 Lys Val Gly Ile Lys Glu Gly Gln Leu Ser Phe Thr Phe Asn Ala Asp  
 100 105 110  
 Ser Thr Phe Val Ser Thr Leu Gly Lys Arg Lys Leu Asn Gly Thr Tyr  
 115 120 125  
 Ser Tyr Asp Ala Gly Thr Gln Met Leu His Leu Arg Tyr Met Lys Leu  
 130 135 140

```

Ile Pro Met Asn Ala Lys Val Asn Tyr Thr Thr Gln Gln Met Asp Leu
145          150          155          160
Leu Phe Glu Ala Asp Lys Leu Leu Lys Leu Ile Thr Phe Leu Ser Ser
          165          170          175
Lys Ser Ser Ser Ala Thr Leu Lys Ala Ile Ser Ser Leu Ala Asp Ser
          180          185          190
Tyr Asp Gly Met Met Leu Gly Tyr Glu Leu Lys Arg
          195          200

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<210> 5400  
 <211> 109  
 <212> PRT  
 <213> B.fragilis

```

<400> 5400
Lys Gln Tyr Gln Lys Phe Val Thr Ile Leu Val Leu Leu Ala Gly Ile
1          5          10          15
Val Pro Val Tyr Ala Ile Met Asn Ile Val Phe Asp Pro Asn Asp Asp
          20          25          30
Gly Asn Leu Leu Ile Thr Leu Gly Thr Leu Thr Pro Ile Leu Gly Asp
          35          40          45
Leu Leu Met Val Tyr Ala Phe Lys Asp Lys Tyr Gln Ile Leu Ile Ser
          50          55          60
Asn His Arg Leu Gln Asn Lys Cys Tyr Leu Cys Ala Arg Tyr Asp Asp
65          70          75          80
Thr Cys His Tyr Cys Met Leu Leu Cys His Ser Leu Ala Asp Ser Pro
          85          90          95
Tyr His Arg Thr Glu Arg Arg Phe Glu Cys Ser Val Phe
          100          105

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<210> 5401  
 <211> 179  
 <212> PRT  
 <213> B.fragilis

```

<400> 5401
Met Met Lys Gln Ser Phe Leu Ala Asn Glu Arg Ile Tyr Leu Arg Ala
1          5          10          15
Val Glu Pro Glu Asp Leu Asp Leu Met Tyr Glu Met Glu Asn Asp Pro
          20          25          30
Ser Met Trp Asp Ile Ser Ser Phe Thr Val Pro Tyr Ser Arg Phe Val
          35          40          45
Leu Lys Gln Tyr Ile Glu Gly Ser Gln Ser Asp Met Phe Ala Asp Lys
          50          55          60
Gln Leu Arg Leu Met Ile Met Arg Arg Lys Asp Asn Cys Thr Leu Gly
65          70          75          80
Thr Val Asp Ile Thr Asp Phe Val Pro Leu His Ser Arg Gly Ala Val
          85          90          95
Gly Ile Ala Val His Ser Asn Tyr Arg Gln Glu Gly Tyr Ala Ser Asp
          100          105          110
Ala Leu Lys Leu Leu Cys Glu Tyr Ala Phe Asn Phe Leu Phe Ile Lys
          115          120          125
Gln Leu Tyr Ala His Ile Ala Val Asp Asn Glu Pro Ser Leu Arg Leu
          130          135          140
Phe Asn Ser Cys Gly Phe Thr Gln Cys Gly Val Leu Lys Glu Trp Leu
145          150          155          160
Leu Thr His Glu Gly Tyr Lys Asp Ala Val Leu Val Gln Cys Met Asn
          165          170          175
Pro Lys Arg

```

<210> 5402  
 <211> 149  
 <212> PRT  
 <213> B.fragilis

<400> 5402  
 Met Glu Glu Gln Ile Lys Arg Ile Val Lys Ser Gln Lys Val Gln Tyr  
 1 5 10 15  
 Ile Ser Phe Trp Ile Ile Pro Leu Leu Leu Val Leu Leu Gly Glu Ala  
 20 25 30  
 Gly Val Leu Pro Val Gly Ile Lys Ala Asp Asn Val Arg Ala Val Tyr  
 35 40 45  
 Val Phe Glu Thr Val Gly Ile Leu Met Thr Ala Val Cys Ile Pro Leu  
 50 55 60  
 Ser Leu Lys Leu Phe Ser Phe Val Leu Thr Lys Lys Ile Asp Gln Leu  
 65 70 75 80  
 Thr Phe Pro Val Ala Leu Ser Arg Tyr Met Leu Trp Gly Ala Val Arg  
 85 90 95  
 Leu Ala Leu Leu Glu Phe Val Val Val Phe Asn Leu Ala Gly Tyr Tyr  
 100 105 110  
 Phe Thr Leu Ser Ser Thr Gly Ala Leu Cys Ala Leu Ile Gly Leu Thr  
 115 120 125  
 Ala Ser Phe Phe Cys Leu Pro Gly Glu Lys Arg Leu Arg Ala Glu Leu  
 130 135 140  
 His Ile Asp Lys Glu  
 145

<210> 5403  
 <211> 70  
 <212> PRT  
 <213> B.fragilis

<400> 5403  
 His Arg Val Lys Ala Cys Ser Leu Asp Val Asn Lys Lys Phe Phe Lys  
 1 5 10 15  
 Cys Lys Arg Leu Val Ile Cys Ala Gln Glu Pro Asp Asn Leu Gln Lys  
 20 25 30  
 Ala Leu Thr Met Leu Ile Glu Lys Arg Tyr Lys Asp Glu Asp Thr Gly  
 35 40 45  
 Ser Asp Gly Val Asn Ser Leu Pro Lys Leu Lys Leu Ser Tyr Ser Ala  
 50 55 60  
 Cys Val Tyr Phe Phe Leu  
 65 70

<210> 5404  
 <211> 230  
 <212> PRT  
 <213> B.fragilis

<400> 5404  
 Ile Lys Thr Lys Asn Met Arg Pro Tyr Ile Ile Ser His Met Met Thr  
 1 5 10 15  
 Ser Val Asp Gly Arg Ile Asp Cys Pro Met Val Gly Gln Leu Ser Thr  
 20 25 30  
 Asp Glu Tyr Tyr Ile Ala Leu Glu Lys Leu Gly Pro Cys Ser Lys Leu  
 35 40 45  
 Ser Gly Arg Ile Thr Thr Ala Leu Glu Cys Ser Ala Val Lys Glu Glu

50		55		60
Ser Thr Pro Met Glu Gly Thr Pro Ile Gly His Lys Ser Val Tyr Val				
65	70	75	80	
Ala Ser Lys Ser Asp Glu Tyr Thr Ile Ile Val Asp Thr Tyr Gly Lys				
	85	90	95	
Leu Arg Trp Gln Glu Gly Glu Ala Asp Gly His Pro Leu Leu Cys Ile				
	100	105	110	
Val Ser Glu Gln Val Ser Glu Glu Tyr Leu Glu Thr Leu Arg Thr Leu				
	115	120	125	
Gly Ile Ser Trp Ile Ala Ala Gly Ala Glu Arg Ile Asp Leu Pro Gln				
	130	135	140	
Ala Met Glu Leu Leu His Glu His Phe Gly Val Glu Arg Leu Ala Ile				
	145	150	155	160
Val Gly Gly Gly His Ile Cys Gly Gly Phe Leu Glu Ala Gly Leu Ile				
	165	170	175	
Asp Glu Val Ser Ile Met Val Ala Pro Gly Ile Asp Gly Arg Lys Gly				
	180	185	190	
Gln Thr Ala Val Phe Asp Gly Ile Ser Arg Met Glu Cys Asn Pro Tyr				
	195	200	205	
Lys Leu Lys Leu Glu Ser Val Glu Gln Trp Glu Thr Gly Ile Val Trp				
	210	215	220	
Leu Arg Tyr Lys Val Lys				
225	230			

&lt;210&gt; 5405

&lt;211&gt; 406

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5405

Asn Ile Thr Lys Met Lys Ile Tyr Ile Phe Ile Ile Leu Ala Ala Ala				
1	5	10	15	
Thr Ser Ile Ser Leu Ile Ser Cys Asp Ser Lys Gln Ser Asp Thr Arg				
	20	25	30	
Ser Ala Ser Ser Ser Glu Val His Arg Asn Asp Asp Gly His Asp His				
	35	40	45	
Arg Glu Ser Asp Gly Asp Asn His Ser Glu Ile Glu Asn Ser Gly Lys				
	50	55	60	
Gly His Glu Asp Glu Ile Phe Thr Arg Gln Gln Ala Glu Ala Ile				
	65	70	75	80
Gly Leu Glu Ile Tyr Asn Val Val Pro Gly Ser Phe Ala Gln Val Ile				
	85	90	95	
Arg Thr Ser Gly Gln Ile Gln Ala Ala Gln Gly Asp Glu Glu Thr Ile				
	100	105	110	
Val Ala Thr Thr Asn Gly Val Val Ser Phe Pro Gly Gln Asn Ile Ile				
	115	120	125	
Glu Gly Ala Thr Val Gly Val Gly Ser Thr Ile Val Thr Ile Ser Ala				
	130	135	140	
Lys Asn Leu Tyr Glu Gly Asp Pro Val Ala Lys Ala Lys Ile Ala Tyr				
	145	150	155	160
Glu Thr Ala Leu Lys Glu Tyr Gln Arg Ala Glu Gly Leu Val Lys Asp				
	165	170	175	
Lys Ile Ile Ser Ala Lys Glu Phe Glu Gln Thr Arg Met Lys Tyr Glu				
	180	185	190	
Asn Ala Arg Thr Ala Tyr Glu Ala Gln Ala Ala Asn Val Thr Val Ser				
	195	200	205	
Gly Val Lys Val Thr Ser Pro Ile Ser Gly Tyr Val Lys Asn Arg Leu				
	210	215	220	
Val Ser Gln Gly Glu Tyr Val Thr Val Gly Gln Pro Val Ala Thr Ile				

225                      230                      235                      240  
 Ser Lys Asn Arg Arg Leu Gln Leu Arg Ala Asp Val Ser Glu Asn Tyr  
                                  245                      250                      255  
 Phe Asn Glu Leu Lys Lys Ile Arg Gly Ala Asn Phe Met Val Ser Tyr  
                                  260                      265                      270  
 Asn Asn Lys Val Tyr Arg Leu Glu Asp Leu His Gly Arg Leu Leu Ser  
                                  275                      280                      285  
 Phe Gly Lys Ala Ala Ala Glu Ser Ser Phe Tyr Ile Pro Ile Thr Phe  
                                  290                      295                      300  
 Glu Phe Asp Asn Ile Gly Asp Phe Ile Pro Gly Ser Tyr Val Glu Val  
 305                      310                      315                      320  
 Tyr Leu Leu Thr Thr Pro Gln Asn Asn Val Phe Ser Ile Pro Val Thr  
                                  325                      330                      335  
 Ala Leu Thr Glu Glu Gln Gly Ile Tyr Phe Val Tyr Leu Gln Ile Ala  
                                  340                      345                      350  
 Glu Glu Glu Phe Val Lys Arg Glu Val Gly Ile Gly Glu Ser Asp Gly  
                                  355                      360                      365  
 Lys Asn Val Arg Ile Leu Ser Gly Leu Lys Glu Gly Glu Arg Val Val  
 370                      375                      380  
 Val Lys Gly Ala Tyr Gln Val Lys Leu Ala Ser Ser Ser Val Leu  
 385                      390                      395                      400  
 Pro Glu Gly His Ser His  
                                  405

<210> 5406  
 <211> 123  
 <212> PRT  
 <213> B.fragilis

<400> 5406  
 Ile Thr Lys Lys Glu Ile Gly Tyr Gly Lys Ile Thr Ile Asn Ser Ile  
 1                      5                      10                      15  
 Ser Asn Asp Asn Arg Gln Thr Leu Pro Arg Phe Gln Pro Glu Ala Met  
                                  20                      25                      30  
 Arg Ala Asn Thr Arg Ile Val Asn Ala Leu Gln Ala Phe Gly Arg Thr  
                                  35                      40                      45  
 Arg Ser Met Thr Ser Ala Gln Val Ala Leu Gly Trp Leu Leu Gln Lys  
                                  50                      55                      60  
 Ala Pro Trp Ile Val Pro Ile Pro Gly Thr Thr Lys Leu Ser His Leu  
 65                      70                      75                      80  
 Glu Glu Asn Leu Arg Thr Leu Asp Phe Asn Ile Ser Ser Gly Glu Trp  
                                  85                      90                      95  
 Lys Glu Leu Glu Asp Ala Val Ala Ala Ile Pro Val Val Gly Asp Arg  
                                  100                      105                      110  
 Tyr Asn Ala Glu Gln Gln Arg Gln Val Gly Arg  
                                  115                      120

<210> 5407  
 <211> 379  
 <212> PRT  
 <213> B.fragilis

<400> 5407  
 Lys Ile Met Asp Arg Arg Asn Phe Leu Arg Thr Ala Ser Ser Phe Ala  
 1                      5                      10                      15  
 Leu Leu Ala Ala Gly Ala Thr Thr Gly Val Ser Arg Val Phe Thr Glu  
                                  20                      25                      30  
 Pro Pro Ile Ser Ser Leu Ser Gly Asn Leu Ser Asp Lys Asn Thr Pro  
                                  35                      40                      45



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Asn Ala Gly Asp Thr Met Glu Tyr Arg Lys Leu Gly Glu Leu Asp Val
 50      55      60
Ser Ala Ile Gly Leu Gly Cys Leu Pro Met Val Gly Tyr Tyr Gly Gly
 65      70      75      80
Lys Tyr Asp Lys Lys Asp Met Ile Ala Leu Ile Arg Arg Ala Tyr Asp
      85      90      95
Lys Gly Val Thr Phe Phe Asp Thr Ala Glu Val Tyr Gly Pro Tyr Ile
      100      105      110
Ser Glu Glu Trp Val Gly Glu Ala Leu Ala Pro Phe Arg Asp Lys Val
      115      120      125
Lys Ile Gly Thr Lys Phe Gly Phe Gly Val Glu Glu Lys Gln Pro Thr
      130      135      140
Ala Ile Asn Ser Arg Pro Asp His Ile Arg Trp Ala Val Glu Gly Ser
      145      150      155      160
Leu Lys Arg Leu Arg Thr Asp His Ile Asp Leu Leu Tyr Gln His Arg
      165      170      175
Val Asp Pro Lys Val Pro Met Glu Glu Val Ala Gly Thr Val Lys Asp
      180      185      190
Leu Met Gln Glu Gly Lys Val Leu His Trp Gly Leu Ser Glu Ala Ser
      195      200      205
Ala Ser Ser Ile Arg Arg Ala His Ala Val Cys Pro Leu Ser Ala Val
      210      215      220
Gln Ser Glu Tyr Ala Ile Trp Trp Arg Glu Pro Glu Thr Lys Ile Phe
      225      230      235      240
Pro Thr Leu Glu Lys Leu Gly Ile Gly Phe Val Pro Tyr Cys Pro Leu
      245      250      255
Gly Arg Ala Phe Leu Thr Gly Ile Ile Asn Glu Asn Ser Arg Phe Tyr
      260      265      270
Glu Gly Asp Arg Arg Trp Asn Leu Pro Gln Phe Thr Pro Glu Ala Leu
      275      280      285
Lys His Asn Met Pro Leu Ile Ala Leu Val Arg Lys Trp Ala Glu Arg
      290      295      300
Lys Gly Val Thr Leu Ala Gln Phe Ala Leu Leu Trp Met Leu Ser Arg
      305      310      315      320
Lys Ser Trp Ile Ala Pro Ile Pro Gly Thr Thr Asn Pro Ala His Leu
      325      330      335
Asp Asp Leu Leu Gly Ala Gly Thr Val Arg Leu Ser Ala Trp Glu Met
      340      345      350
Glu Glu Phe Asp Lys Glu Tyr Ala Lys Ile Asp Leu Met Gly His Arg
      355      360      365
Ala Asp Pro Phe Thr Glu Ser Gln Ile Asp Lys
      370      375

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&lt;210&gt; 5408

&lt;211&gt; 225

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5408

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Ser Ile Thr Leu Thr Lys Gly Cys Trp Ser Ala Tyr Pro Thr Lys Val
 1      5      10      15
Phe Pro Asp Arg Asn His Thr Asp Arg Leu Trp Gly Arg Thr Ser Asn
 20      25      30
Asn Gly Gln Thr Ala Gln Thr Ala Asp Thr Leu Pro Ala Ile Leu Arg
 35      40      45
Val Val Leu Asn Asn Gly Ile Glu Met Pro Gln Leu Gly Val Gly Thr
 50      55      60
Ser Thr Leu Lys Glu Thr Ala Ala Glu Cys Val Lys His Ala Ile Gly
 65      70      75      80

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Leu Gly Tyr Arg Leu Val Asp Val Ala Gln Gly Tyr Asp Asn Glu Ala  
                   85                  90                  95  
 Glu Val Trp Tyr Gly Ile Lys Glu Ser Gly Ile Gly Arg Ser Glu Val  
                   100                  105                  110  
 Phe Ile Ile Ser Lys Val Ser Pro Asp Ala Val Arg Ser Gly Lys Val  
                   115                  120                  125  
 Arg Glu Ser Leu Asp Arg Thr Ile Glu Ala Phe Gly Gly Thr Tyr Val  
                   130                  135                  140  
 Asp Leu Met Leu Ile His Trp Pro Val Ala Arg Lys Val Lys Glu Arg  
                   145                  150                  155                  160  
 Trp Arg Ile Met Glu Lys Tyr Val Asp Val Gly Lys Ile Arg Ala Ile  
                   165                  170                  175  
 Gly Val Ser Asn Phe Asn Pro His His Val Asp Glu Leu Leu Ala Tyr  
                   180                  185                  190  
 Ala Arg Ile Lys Pro Val Val Asn Gln Ile Lys Ile His Pro Tyr Met  
                   195                  200                  205  
 Glu His Gln Glu Val Val Gly Asn Thr Phe Ala Lys Gly Ile Gln Val  
                   210                  215                  220  
 Gln  
 225

<210> 5409

<211> 342

<212> PRT

<213> B.fragilis

<400> 5409

Lys Asn Asn Ser Met Asp Lys Arg Lys Leu Gly Gln Leu Glu Val Ser  
 1                  5                  10                  15  
 Pro Ile Gly Met Gly Cys Met Gly Phe Ser His Gly Tyr Gly Gln Val  
                   20                  25                  30  
 Pro Pro Glu Ala Tyr Ala Ile Glu Ala Ile Arg Gly Ala Tyr Asp Tyr  
                   35                  40                  45  
 Gly Cys Thr His Phe Asp Thr Ala Glu Ala Tyr Gly Lys Glu Gln Phe  
                   50                  55                  60  
 Tyr Ala Gly His Asn Glu Glu Leu Val Gly Lys Ala Ile Glu Pro Phe  
                   65                  70                  75                  80  
 Arg Lys Lys Val Val Leu Ala Thr Lys Phe His Ile Gly Glu Leu Ser  
                   85                  90                  95  
 Lys Pro Asp Glu Thr Asn Leu Tyr Arg Glu Val Arg Arg His Leu Glu  
                   100                  105                  110  
 Asp Ser Met Ser Arg Leu Arg Thr Asp Tyr Ile Asp Leu Tyr Tyr Leu  
                   115                  120                  125  
 His Arg Ile Ser Glu Ala Val Arg Leu Glu Asp Val Ala Thr Val Met  
                   130                  135                  140  
 Gly Arg Leu Ile Gln Glu Gly Leu Ile Arg Gly Trp Gly Leu Ser Gln  
                   145                  150                  155                  160  
 Val Ser Ala Asp Gln Ile Arg Ala Ala His Lys Ile Thr Pro Leu Ser  
                   165                  170                  175  
 Ala Val Gln Asn Ile Tyr Ser Met Val Glu Arg Asp Cys Glu Thr Glu  
                   180                  185                  190  
 Ile Phe Pro Val Cys Leu Glu Lys Gly Ile Gly Val Val Pro Phe Ser  
                   195                  200                  205  
 Pro Ile Ala Ser Gly Phe Leu Ser Gly Lys Val Thr Pro Gln Asp Gln  
                   210                  215                  220  
 Phe Gly Phe Asp Asp Val Arg Lys Phe Val Pro Gln Leu Ser Lys Glu  
                   225                  230                  235                  240  
 Asn Ile Glu Ala Asn Gln Pro Ile Leu Asp Leu Leu His Arg Phe Ala  
                   245                  250                  255

Val Glu Lys His Ala Thr Asn Ala Gln Ile Ser Leu Ala Trp Met Leu  
 260 265 270  
 His Lys Tyr Pro Asn Val Val Pro Ile Pro Gly Ser Lys Asn Gln Glu  
 275 280 285  
 Arg Ile Leu Glu Asn Leu Gly Ala Trp Asn Val Thr Leu Ser Asp Asp  
 290 295 300  
 Glu Phe Arg Gln Leu Gln Ser Ala Leu Asp Glu Cys Lys Val His Gly  
 305 310 315 320  
 His Arg Gly Cys Val Glu Thr Glu Gln Thr Ser Phe Gly Lys Gln Trp  
 325 330 335  
 Ser Glu Glu Thr Asp Lys  
 340

<210> 5410

<211> 292

<212> PRT

<213> B.fragilis

<400> 5410

Asn Lys Glu Ser Met Lys Val Ile Ser Asn Ala Glu Phe Gly Gly Glu  
 1 5 10 15  
 Arg Pro Leu Phe Glu Ser His Asp Leu Arg Leu Glu Asn Val Ile Ile  
 20 25 30  
 Arg Ala Gly Glu Ser Ala Ile Lys Glu Cys Ser Asn Ile Glu Ala Val  
 35 40 45  
 Asp Cys Arg Phe Glu Gly Asn Tyr Pro Phe Trp His Val His Gly Phe  
 50 55 60  
 Val Ile Asp Arg Cys Phe Phe Asp Val Gly Gly Arg Ser Ala Leu Trp  
 65 70 75 80  
 Tyr Ser Asp Asn Leu Lys Met Thr Asn Thr Arg Ile Asp Ala Pro Lys  
 85 90 95  
 Met Phe Arg Glu Met His Asp Ile Glu Ile Glu Asn Val Glu Ile Asn  
 100 105 110  
 Asp Ala Asp Glu Val Phe Trp Arg Cys Lys Asn Leu Asp Ile Lys Asn  
 115 120 125  
 Leu Lys Leu His Gly Gly Thr Tyr Pro Phe Met Phe Ser Ser Asn Ile  
 130 135 140  
 Arg Ile Asp Gly Leu Glu Ser Asp Ser Lys Tyr Val Phe Gln Tyr Val  
 145 150 155 160  
 Lys Asn Val Glu Leu Arg Asn Ala Lys Ile Thr Thr Lys Asp Ala Phe  
 165 170 175  
 Trp Glu Val Glu Asn Val Thr Ile Tyr Asp Ser Glu Leu Asn Gly Glu  
 180 185 190  
 Tyr Leu Gly Trp His Ser His Asn Leu Arg Leu Val Asn Cys His Ile  
 195 200 205  
 Thr Gly Glu Gln Pro Leu Cys Tyr Ala His Asp Leu Val Leu Glu Asn  
 210 215 220  
 Cys Thr Phe Gly Pro Asp Cys Asp Arg Ala Phe Glu Tyr Ser Ser Val  
 225 230 235 240  
 Gln Ala Thr Ile Lys Gly Ala Ile Gly Gly Val Lys Asn Pro Arg Thr  
 245 250 255  
 Gly Cys Ile Thr Ala Glu Ser Tyr Gly Glu Ile Ile Leu Asp Glu Asn  
 260 265 270  
 Ile Lys Ala Pro Ala Asp Cys Lys Leu Lys Leu Trp Asp Glu Lys Thr  
 275 280 285  
 Cys Phe Thr Asp  
 290

<210> 5411

<211> 287  
 <212> PRT  
 <213> B.fragilis

<400> 5411

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Arg Tyr Tyr Gly Met Asp Phe Lys Glu Leu Asn Asn Gly Val Lys Met
1      5      10      15
Pro Ile Gln Gly Phe Gly Val Phe Gln Ile Pro Asp Ala Thr Glu Cys
      20      25      30
Glu Arg Val Val Thr Asp Ala Leu Ala Val Gly Tyr Arg Leu Ile Asp
      35      40      45
Thr Ala Ser Val Tyr Gly Asn Glu Arg Ala Val Gly Met Ala Ile Arg
      50      55      60
Lys Ser Gly Ile Pro Arg Glu Glu Leu Phe Ile Thr Thr Lys Ala Trp
      65      70      75      80
Ile Ser Glu Met Gly Tyr Glu Arg Thr Leu Arg Ala Leu Asp Thr Ser
      85      90      95
Leu Ala Arg Leu Gly Leu Asp Tyr Leu Asp Leu Tyr Leu Ile His Met
      100     105     110
Pro Phe Gly Asp Tyr Tyr Gly Ala Trp Arg Ala Met Glu Lys Leu Tyr
      115     120     125
Ala Lys Gly Arg Val Arg Ala Ile Gly Val Cys Asn Phe Glu Pro Asp
      130     135     140
Arg Leu Leu Asp Leu Cys His Asn Ala Asn Val Ile Pro Ala Val Asn
      145     150     155     160
Gln Ile Glu Val His Pro Tyr Thr Pro Gln Thr Asp Ala Ile Arg Thr
      165     170     175
Met Gln Glu Leu Gly Ile Gln Ala Glu Ala Trp Gly Pro Leu Ala Glu
      180     185     190
Gly Arg Asn Gly Leu Phe Thr Asp Asp Ile Leu Thr Gly Ile Ala Arg
      195     200     205
Lys Tyr Asp Lys Ser Ala Ala Gln Val Val Leu Arg Trp His Leu Gln
      210     215     220
Arg Gly Val Val Ala Ile Pro Lys Ser Val His Arg Gln Arg Met Gln
      225     230     235     240
Glu Asn Phe Asn Ile Gly Asp Phe Met Leu Thr Pro Glu Asp Met Ala
      245     250     255
Ala Ile Ala Ser Met Asn Met Gly Tyr Asp Met Ile Leu Asp Leu His
      260     265     270
Ala Pro Glu Glu Val Gln Arg Leu Tyr Gly Ile Glu Cys Pro Ala
      275     280     285

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<210> 5412  
 <211> 227  
 <212> PRT  
 <213> B.fragilis

<400> 5412

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Leu Glu Ile Met Ile Lys Ala Ile Gly Leu Thr Lys Ile Phe Arg Thr
1      5      10      15
Glu Ser Val Gln Thr Ile Ala Leu Asn Glu Ile Ser Ile Asn Ile Ser
      20      25      30
Glu Gly Glu Phe Val Ala Ile Met Gly Pro Ser Gly Cys Gly Lys Ser
      35      40      45
Thr Leu Leu Asn Ile Leu Gly Leu Leu Asp Asn Pro Thr Ser Gly Glu
      50      55      60
Leu Trp Phe Ile Gly Lys Glu Val Ser Arg Tyr Ser Glu Asn Asp Arg
      65      70      75      80
Thr Asp Met Arg Asn Gly Asn Ile Gly Phe Val Phe Gln Ser Phe Asn

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210		215		220
Gln Thr Ile Ser Ser Asn Glu His Ser Arg Ile Phe Val Phe Asp Asp				
225		230		235
Trp Met Ser Arg Gln Asn Phe Phe Lys Gln Phe Leu Ser Gly Ile Phe				
	245		250	255
Ile Val Ile Val Met Thr Gly Leu Asp Gln Asp Met Met Gln Lys Asn				
	260		265	270
Leu Ser Cys Arg Ser Leu Arg Asp Ala Gln Lys Asn Met Tyr Cys Tyr				
	275		280	285
Gly Phe Ala Phe Ala Pro Leu Asn Leu Leu Phe Leu Gly Leu Gly Ile				
	290		295	300
Leu Leu Leu Val Leu Ala Gln Glu Met Gln Leu Glu Leu Pro Ala Ala				
305		310		315
Gly Asp Asp Ile Leu Pro Leu Phe Ala Thr Gln Gly Tyr Leu Gly Glu				
	325		330	335
Gly Val Leu Ile Leu Phe Thr Ile Gly Ile Ile Ala Ala Ala Phe Ser				
	340		345	350
Asn Ser Asp Ser Ala Leu Thr Ala Met Thr Thr Ser Phe Cys Ile Asp				
	355		360	365
Leu Leu Asp Thr Gly Lys Asp Thr Glu Glu Glu Ala Arg Arg Lys Arg				
	370		375	380
Asn Arg Val His Ile Gly Leu Ser Val Leu Leu Ile Phe Phe Ile Cys				
385		390		395
Leu Val Asp Ala Leu Asn Asn Gln Ser Val Ile Asp Ala Ile Tyr Ile				
	405		410	415
Ile Ala Ser Tyr Thr Tyr Gly Pro Leu Leu Gly Met Phe Ala Phe Gly				
	420		425	430
Leu Phe Thr Gln Arg Lys Thr Asn Asp Arg Trp Val Pro Phe Ile Ala				
	435		440	445
Ile Ala Ser Pro Leu Ile Cys Tyr Ala Ala Asp Arg Phe Ala Arg Gln				
	450		455	460
Glu Thr Gly Tyr Gln Phe Gly Tyr Glu Leu Leu Met Leu Asn Gly Ile				
465		470		475
Leu Thr Phe Ala Gly Ile Trp Ile Val Ser Lys Lys Gln Leu Lys Asn				
	485		490	495
Glu Phe				

&lt;210&gt; 5415

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5415

Tyr Pro Thr Ile Gly Arg Gln Pro Arg Pro Ile Ala Asp Thr Ser Ser				
1	5	10	15	
Ser Pro Ser Leu Arg Tyr Ser Ile Val Ser Pro Ala Phe Gly Val Phe				
	20	25	30	
Leu Ser Asp Lys Phe Pro Asp Lys Glu Glu Ile Gly Gly Ser Val Asn				
	35	40	45	
Thr Arg Glu Thr Pro Val Val Ala Pro Ala Ala Ser Ser Ala Lys Leu				
	50	55	60	
Asp Ala Val Leu Lys Lys Phe Leu Arg Ser Ile Ile Phe Tyr Phe Phe				
65	70	75	80	
Ile Val His Phe Met Ile Ala Asn Leu Pro Arg Leu Asn Lys Ser Ala				
	85	90	95	
Cys Ile Arg Phe Thr Asp Ile Tyr Thr Arg Ile Leu Glu Ile Val His				
	100	105	110	
Glu Leu Arg Phe Pro Ser Ile Gln Tyr Phe Ser Phe Leu Phe Lys Lys				

115	120	125
Ile Met Gly Leu Ala Pro Asn Glu Tyr Arg Leu Ile Asn		
130	135	140

<210> 5416  
 <211> 164  
 <212> PRT  
 <213> B.fragilis

<400> 5416  
 His Cys Asn Met Phe Ala Thr Trp Leu Gln Glu Ile Tyr Ser Ile Phe  
 1 5 10 15  
 Val Pro Lys Val Lys Thr Lys Gln Met Lys Arg Ile Phe Phe Val Tyr  
 20 25 30  
 Pro Leu Ala Ile Ala Thr Leu Phe Leu Ile Val Leu Ser Ala Ile Pro  
 35 40 45  
 His His His His Lys Glu Met Met Cys Thr Val Met Glu Leu Cys Glu  
 50 55 60  
 Gln Asp Asp Ile Tyr Asn Asp Gly His Thr Asp His Glu Ala Gly Gln  
 65 70 75 80  
 Asp Ala His Asn Glu Asn Thr Cys Val Ser Gln Ala Gly Tyr Ile Phe  
 85 90 95  
 Pro Ser Ser Val Asp Lys Ser Asn Leu His Asp Gly Ser Leu Met Asn  
 100 105 110  
 Ile His Leu Pro Val Leu Tyr Leu Phe Ala Asp Ile Leu Thr Ile His  
 115 120 125  
 Phe Asp Ile Pro Ile Ser Glu Asn Thr Tyr Asp Arg Tyr Val Val Ser  
 130 135 140  
 Tyr Thr Ser Val Val Leu Gly Glu Ser Ser Gly Leu Arg Ala Pro Pro  
 145 150 155 160  
 Tyr Phe Phe Ser

<210> 5417  
 <211> 199  
 <212> PRT  
 <213> B.fragilis

<400> 5417  
 Ile Arg Gly Met Asn Ile Asn Thr Asp Ile Phe Lys Ile Gln Ser Asn  
 1 5 10 15  
 Asn Val Met Pro Ser Arg Gly Lys Ile Leu Ile Ser Glu Pro Phe Leu  
 20 25 30  
 His Asp Val Thr Phe Gly Arg Ser Val Val Leu Leu Val Asp His Thr  
 35 40 45  
 Glu Glu Gly Ser Met Gly Leu Ile Ile Asn Lys Pro Leu Pro Leu Met  
 50 55 60  
 Leu Asn Asp Ile Ile Lys Glu Phe Lys Tyr Ile Glu Asp Ile Pro Leu  
 65 70 75 80  
 His Lys Gly Gly Pro Ile Gly Thr Asp Thr Leu Phe Tyr Leu His Thr  
 85 90 95  
 Leu His Glu Ile Pro Gly Thr Leu Pro Ile Asn Asn Gly Leu Tyr Leu  
 100 105 110  
 Asn Gly Asp Phe Asp Ala Ile Lys Lys Tyr Ile Leu Gln Gly Asn Pro  
 115 120 125  
 Ile Lys Gly Lys Ile Arg Phe Phe Leu Gly Tyr Ser Gly Trp Glu Cys  
 130 135 140  
 Glu Gln Leu Ile Gln Glu Ile Lys Glu Asn Thr Trp Ile Ile Ser Lys  
 145 150 155 160



Glu Glu Asn Thr Tyr Leu Met Asn Glu Asp Ile Lys Gly Met Trp Lys  
 165 170 175  
 Glu Ala Leu Gly Lys Leu Gly Ser Lys Tyr Glu Thr Trp Ser Arg Phe  
 180 185 190  
 Pro Gln Val Pro Ser Leu Asn  
 195

<210> 5418  
 <211> 75  
 <212> PRT  
 <213> B.fragilis

<400> 5418  
 Cys Thr Gly Asn Lys Asn Ser Ala Thr Val Gly Ser Phe Gln Pro Arg  
 1 5 10 15  
 Gly Glu Asp Tyr Leu Phe Met Tyr His Trp Leu Asp Glu Phe Ala Tyr  
 20 25 30  
 Arg Thr Thr Met Ser Trp Trp Leu Phe Leu Gly Gly Gly Leu Ile Ile  
 35 40 45  
 Ala Gly Ile Thr Leu Leu Thr Val Ile Gly Gln Thr Trp Arg Thr Ala  
 50 55 60  
 Ser Gln Asn Pro Val Arg Ser Leu Arg Tyr Glu  
 65 70 75

<210> 5419  
 <211> 82  
 <212> PRT  
 <213> B.fragilis

<400> 5419  
 Asn Pro Cys Phe Gly Arg Asp Glu Gln Phe Leu Thr Arg Asn Thr Thr  
 1 5 10 15  
 Phe Pro Asn Ser His Thr Asp Arg Pro Phe Ile Ser Ile Asp Arg Ser  
 20 25 30  
 Gly Val Asp Glu Pro Ile Ala Asp Gly Lys Arg Ile Gly Asn Asn Ser  
 35 40 45  
 Phe Ala Leu Gly Gly Ile Gly Tyr Leu Lys Asp Thr Lys Ala Leu Tyr  
 50 55 60  
 Arg His Leu Tyr Ser Val Ile Gln Phe Phe Glu Ile His Thr Ile Ile  
 65 70 75 80  
 Ser Leu

<210> 5420  
 <211> 140  
 <212> PRT  
 <213> B.fragilis

<400> 5420  
 Lys Thr Lys Phe Met Asp Leu Lys Lys Thr Thr Phe Tyr Leu Phe Thr  
 1 5 10 15  
 Leu Phe Ser Leu Met Leu Ile Ser Cys Ser Asn Asp Asp Glu Asn Lys  
 20 25 30  
 Asn Asp Ala Gln Val Thr Val Thr Val Val Ser Ala Asp Gly Lys Pro  
 35 40 45  
 Leu Pro Asn Glu Ile Val Gln Met Phe Asp Glu Lys Thr Tyr Glu Glu  
 50 55 60  
 Phe Lys Lys Asp Asn Arg Thr Thr Pro Thr Ala Tyr Ala Leu Thr Asn  
 65 70 75 80

Ser Thr Gly Val Ala Thr Phe Ile Phe Thr Tyr Asp Lys Trp Phe Glu  
                   85                  90                  95  
 Ser Asn Lys Asp Arg Phe Phe Thr Phe Ala Val Gln Tyr Gly Ser Gly  
                   100                  105                  110  
 Thr Glu Asn Tyr Glu Ile Trp Ser Ala Gly Arg Thr Val Arg Pro Gly  
                   115                  120                  125  
 Ser Val Thr Gln Ile Glu Leu Lys Leu Lys Pro Leu  
                   130                  135                  140

<210> 5421

<211> 61

<212> PRT

<213> B.fragilis

<400> 5421

Thr Ser Ser Ser Asp Ile Leu Phe Leu Asn Phe Ile Arg Ser Thr Cys  
 1                  5                  10                  15  
 Val Phe Phe Ile Ser Phe Val Ile Val Met Val Val Met Ile Ala Ile  
                   20                  25                  30  
 Phe Gly Asn Lys Lys Gln Lys Ser Lys Lys Ile Asp Val Tyr Phe Leu  
                   35                  40                  45  
 Ala Phe Leu His Gly Asp Asp Ser Cys His Gly Ile Pro  
                   50                  55                  60

<210> 5422

<211> 127

<212> PRT

<213> B.fragilis

<400> 5422

Val Lys Glu Ser Val Arg Ile Phe Arg Phe Ala Val Ile Gly Thr Leu  
 1                  5                  10                  15  
 Asn Ala Leu Ile Thr Ala Phe Val Ile Trp Leu Met Met Asp Glu Leu  
                   20                  25                  30  
 Ser Tyr Asp Tyr Ile Pro Ala Asn Ile Thr Ala Tyr Ile Val Ala Gln  
                   35                  40                  45  
 Ile His Asn Phe Ile Trp Ser Lys Tyr Trp Ile Phe Pro Ile Glu Asn  
                   50                  55                  60  
 Lys Lys Asn Asn Ile Trp Lys Gln Met Leu Phe Phe Cys Ser Ala Phe  
                   65                  70                  75                  80  
 Gly Leu Ala Tyr Ser Ala Gln Phe Leu Phe Leu Val Thr Leu Val Glu  
                   85                  90                  95  
 Cys Gly Asp Val Asn Glu Tyr Leu Ala Gln Phe Leu Gly Leu Phe Ile  
                   100                  105                  110  
 Tyr Gly Thr Val Asn Phe Ile Val Asn Lys Lys Leu Thr Phe Arg  
                   115                  120                  125

<210> 5423

<211> 1058

<212> PRT

<213> B.fragilis

<400> 5423

Lys Ser Ser Pro Tyr Gln Ser Ile Thr Ser His Gln Pro Leu Ile Val  
 1                  5                  10                  15  
 Asn Cys Met Phe Ser Lys Phe Phe Ile Asn Arg Pro Ile Phe Ala Thr  
                   20                  25                  30  
 Val Leu Ala Leu Ile Ile Val Val Ala Gly Leu Val Thr Leu Asn Ile  
                   35                  40                  45

Leu Pro Val Ala Gln Phe Pro Glu Ile Thr Pro Pro Thr Val Gln Val  
 50 55 60  
 Ser Ala Phe Tyr Pro Gly Ala Asn Ala Glu Thr Val Ala Gln Thr Val  
 65 70 75 80  
 Gly Ile Pro Ile Glu Gln Gln Val Asn Gly Val Asp Gly Met Leu Tyr  
 85 90 95  
 Met Ser Ser Thr Ala Ser Ser Ser Gly Ala Tyr Ser Leu Thr Ile Thr  
 100 105 110  
 Phe Ala Val Gly Thr Asp Ile Asp Met Ala Thr Val Gln Val Gln Asn  
 115 120 125  
 Arg Val Ser Val Ala Gln Ser Ser Leu Pro Glu Pro Val Ile Val Gln  
 130 135 140  
 Gly Val Thr Val Gln Lys Gln Ser Ser Asn Ile Val Met Phe Leu Thr  
 145 150 155 160  
 Met Gln Ala Gln Asp Ser Val Tyr Asp Gly Leu Tyr Leu Thr Asn Tyr  
 165 170 175  
 Ala Gln Leu Asn Leu Val Asp Gln Leu Thr Arg Val Pro Gly Val Gly  
 180 185 190  
 Ala Val Asn Val Met Gly Ala Gly Asn Tyr Ser Met Arg Val Trp Leu  
 195 200 205  
 Asp Pro Glu Ala Met Arg Ile Arg Asn Leu Ser Pro Ala Gln Ile Tyr  
 210 215 220  
 Gln Ala Ile Gln Ser Gln Asn Ile Glu Val Ser Ala Gly Tyr Ile Gly  
 225 230 235 240  
 Gln Pro Ile Gly Lys Asn Asn Asn Asn Ala Tyr Gln Tyr Thr Leu Asn  
 245 250 255  
 Val Gln Gly Arg Leu Thr Ser Pro Glu Glu Phe Gly Asn Ile Ile Ile  
 260 265 270  
 Arg Thr Glu Glu Gly Gly Lys Met Leu Arg Leu Lys Asp Val Ala Arg  
 275 280 285  
 Ile Asp Leu Gly Ser Ser Ser Tyr Asn Val Val Ser Lys Leu Lys Gly  
 290 295 300  
 His Pro Thr Ala Ala Ile Ala Ile Tyr Gln Gln Pro Gly Ser Asn Ser  
 305 310 315 320  
 Leu Asp Val Ser Lys Gly Val Lys Ala Lys Met Gln Glu Leu Ala Gln  
 325 330 335  
 Asn Phe Pro Ala Gly Val Ser Tyr Asn Val Thr Leu Asp Thr Thr Asp  
 340 345 350  
 Val Ile Asn Ala Ser Ile Asp Glu Val Leu Val Thr Phe Leu Glu Thr  
 355 360 365  
 Thr Leu Leu Val Val Leu Val Ile Phe Leu Phe Leu Gln Asn Trp Arg  
 370 375 380  
 Ala Val Ile Ile Pro Cys Ile Thr Ile Pro Val Ser Leu Ile Gly Thr  
 385 390 395 400  
 Leu Ala Val Met Ala Ala Leu Gly Phe Ser Ile Asn Thr Leu Thr Leu  
 405 410 415  
 Phe Gly Leu Ile Leu Ala Val Ala Ile Val Val Asp Asp Ala Ile Val  
 420 425 430  
 Val Val Glu Asn Ala Ser Arg Leu Leu Glu Thr Gly Gln Tyr Ser Pro  
 435 440 445  
 Lys Glu Ala Val Thr Lys Ala Met Gly Glu Ile Thr Gly Pro Ile Val  
 450 455 460  
 Gly Val Val Leu Val Leu Leu Ala Val Phe Ile Pro Thr Thr Leu Ile  
 465 470 475 480  
 Ser Gly Ile Ser Gly Gln Leu Tyr Lys Gln Phe Ala Leu Thr Ile Ala  
 485 490 495  
 Ala Ser Thr Val Leu Ser Gly Ile Asn Ser Leu Thr Leu Thr Pro Ala  
 500 505 510  
 Leu Cys Ala Leu Phe Leu Glu His Asn Lys Pro Ser Asn Phe Phe Ile

515					520					525					
Tyr	Lys	Gly	Phe	Asn	Lys	Val	Tyr	Asp	Lys	Thr	Gln	Asn	Leu	Tyr	Asp
530					535					540					
Arg	Ile	Val	Lys	Gly	Leu	Val	Arg	Pro	Gly	Leu	Ala	Leu	Ile	Ser	
545					550					555					
Tyr	Gly	Ile	Ile	Thr	Ala	Val	Ala	Val	Ile	Leu	Phe	Met	Lys	Trp	Pro
565					570					575					
Ser	Thr	Phe	Val	Pro	Asp	Glu	Asp	Asp	Gly	Tyr	Phe	Ile	Ala	Val	Ile
580					585					590					
Gln	Leu	Pro	Pro	Ala	Ser	Ser	Leu	Glu	Arg	Thr	Gln	Ala	Val	Gly	Arg
595					600					605					
Lys	Val	Asn	Gln	Ile	Leu	Asp	Ser	Tyr	Pro	Glu	Val	Lys	Asp	Tyr	Ile
610					615					620					
Gly	Ile	Ser	Gly	Phe	Ser	Ile	Met	Gly	Gly	Gly	Glu	Gln	Ser	Asn	Thr
625					630					635					
Gly	Thr	Tyr	Phe	Val	Val	Leu	Lys	Asn	Trp	Asp	Gln	Arg	Lys	Gly	Lys
645					650					655					
Glu	His	Thr	Ala	Ala	Val	Val	Glu	Arg	Phe	Asn	Glu	Met	Ala	Tyr	
660					665					670					
Gly	Ile	Gln	Glu	Ala	Gln	Ile	Phe	Ala	Met	Val	Pro	Pro	Ala	Ile	Pro
675					680					685					
Gly	Leu	Gly	Ala	Ser	Gly	Gly	Leu	Gln	Leu	Gln	Leu	Glu	Asp	Arg	Asn
690					695					700					
Asn	Leu	Gly	Pro	Thr	Glu	Met	Gln	Arg	Ala	Val	Glu	Thr	Leu	Met	Ala
705					710					715					
Thr	Tyr	His	Thr	Gln	Pro	Ala	Leu	Ala	Ser	Ile	Ser	Ser	Met	Tyr	Gln
725					730					735					
Ala	Asn	Val	Pro	Gln	Tyr	Phe	Leu	Asn	Ile	Asp	Arg	Asp	Lys	Val	Gln
740					745					750					
Phe	Met	Gly	Ile	Gln	Leu	Asp	Asn	Val	Phe	Ser	Thr	Leu	Ser	Tyr	Tyr
755					760					765					
Met	Gly	Ala	Ala	Tyr	Val	Asn	Asp	Phe	Val	Gln	Phe	Gly	Arg	Ile	Tyr
770					775					780					
Gln	Val	Lys	Ile	Glu	Ala	Gly	Glu	Gln	Ala	Gln	Lys	Val	Ile	Asp	Asp
785					790					795					
Val	Leu	Lys	Leu	Ser	Val	Pro	Asn	Ala	Lys	Gly	Asp	Met	Val	Pro	Phe
805					810					815					
Ser	Ser	Phe	Thr	Lys	Val	Glu	Glu	Arg	Leu	Gly	Met	Asp	Gln	Ile	Ser
820					825					830					
Arg	Tyr	Asn	Met	Tyr	Ser	Thr	Ala	Ser	Ile	Thr	Cys	Asn	Val	Ala	Ser
835					840					845					
Gly	Ser	Ser	Ser	Gly	Glu	Gly	Ile	Gln	Gln	Met	Glu	Asp	Leu	Ile	Lys
850					855					860					
Glu	Gln	Leu	Gly	Asn	Glu	Phe	Gly	Tyr	Glu	Trp	Thr	Ser	Val	Ala	Tyr
865					870					875					
Gln	Glu	Thr	Gln	Ala	Gly	Asn	Thr	Thr	Thr	Ile	Val	Phe	Ile	Met	Ala
885					890					895					
Leu	Leu	Val	Ala	Phe	Leu	Val	Leu	Ala	Ala	Gln	Tyr	Glu	Ser	Trp	Thr
900					905					910					
Ser	Pro	Leu	Ser	Ala	Ile	Met	Gly	Leu	Pro	Met	Ala	Leu	Leu	Gly	Ala
915					920					925					
Met	Ile	Gly	Cys	Ser	Val	Met	Gly	Thr	Pro	Val	Ser	Ile	Tyr	Thr	Gln
930					935					940					
Ile	Gly	Ile	Ile	Leu	Leu	Ile	Ala	Leu	Ser	Ala	Lys	Asn	Gly	Ile	Leu
945					950					955					
Ile	Val	Glu	Phe	Ala	Arg	Asp	Phe	Arg	Ala	Glu	Gly	Asn	Ser	Ile	Arg
965					970					975					
Asp	Ala	Ala	Tyr	Glu	Ala	Gly	His	Val	Arg	Leu	Arg	Pro	Ile	Leu	Met
980					985					990					

Thr Ser Phe Ala Phe Val Leu Gly Val Met Pro Leu Leu Phe Ala Thr  
 995 1000 1005  
 Gly Ala Gly Ala Gln Ser Arg Ile Ala Leu Gly Ala Ala Val Val Phe  
 1010 1015 1020  
 Gly Met Ala Leu Asn Thr Leu Leu Ala Thr Ile Tyr Ile Pro Asn Phe  
 1025 1030 1035 1040  
 Tyr Glu Leu Met Gln Lys Phe Gln Glu Asn Ile Leu Asp Arg Lys Lys  
 1045 1050 1055  
 Lys Lys

<210> 5424  
 <211> 149  
 <212> PRT  
 <213> B.fragilis

<400> 5424  
 Met Leu Ser Leu Asn Leu Pro Val Phe Asp Thr Lys Ile Ala Thr Arg  
 1 5 10 15  
 Asn Gly Lys Asn Val Ile Phe Asp Val Ile Arg Arg Arg Tyr Val Ala  
 20 25 30  
 Leu Thr Pro Glu Glu Trp Val Arg Gln His Phe Val His Phe Leu Ile  
 35 40 45  
 Val His Lys Gly Tyr Pro Ser Ser Leu Met Ala Asn Glu Val Leu Leu  
 50 55 60  
 Asn Leu Asn Gly Thr Lys Lys Arg Cys Asp Thr Val Leu Tyr Lys Arg  
 65 70 75 80  
 Asp Leu Ser Ala Arg Met Ile Val Glu Tyr Lys Ala Pro His Ile Glu  
 85 90 95  
 Ile Thr Gln Ala Val Phe Asp Gln Ile Thr Arg Tyr Asn Met Val Leu  
 100 105 110  
 Lys Val Asp Tyr Leu Val Val Ser Asn Gly Met Gln His Tyr Cys Cys  
 115 120 125  
 Arg Met Asp Tyr Asp Thr Gln Ser Tyr Ser Phe Leu Ser Asp Ile Pro  
 130 135 140  
 Asp Tyr Asp Ala Leu  
 145

<210> 5425  
 <211> 141  
 <212> PRT  
 <213> B.fragilis

<400> 5425  
 Arg Leu Lys Pro Met Lys Ala Phe Leu Pro Leu Leu Leu Ser Phe Phe  
 1 5 10 15  
 Phe Ile Ile Ser Cys Gln Gln His Lys Glu Ala Thr Ile Ser Pro Ile  
 20 25 30  
 Asp Glu Glu Asp Glu Leu Gln Glu Glu Ala Asp Ser Leu Pro Arg Ala  
 35 40 45  
 Thr Ala Ile Phe Trp Leu Asp Lys Tyr His Met Lys Glu Leu Lys Lys  
 50 55 60  
 Asp Asp Val Leu Thr Phe Arg Thr Ala Lys Ala Lys Val Ile Ile Arg  
 65 70 75 80  
 Asn Asp Gly Thr Ile Glu Leu Leu Ser Phe Val Glu Gln Gln Pro Gly  
 85 90 95  
 Asn Ala Gln Arg Tyr Ile Arg Tyr Arg Leu Lys Asp Phe Lys Val Lys  
 100 105 110  
 Lys Ile Leu Met Asp Asn Gly Tyr Ile Asn Pro Gly Glu Gln Tyr Val

	115		120		125
Gln	Leu Arg Tyr Ile Pro	Ala Leu Ala Arg Arg	Val Lys		
	130	135	140		

&lt;210&gt; 5426

&lt;211&gt; 353

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5426

Met	Met	Glu	Pro	Thr	Cys	Met	Ser	Glu	Asn	Lys	Lys	Lys	Ile	Ile	Phe
1				5					10					15	
Ile	Val	Asn	Pro	Ile	Ser	Gly	Thr	Gln	Ser	Lys	Glu	Leu	Val	Leu	Ser
			20					25					30		
Leu	Leu	Asp	Glu	Lys	Ile	Asp	Lys	Glu	Met	Tyr	Thr	Trp	Glu	Ile	Val
		35					40					45			
Tyr	Thr	Glu	Arg	Ala	Gly	His	Ala	Ile	Glu	Ile	Ala	Ala	Asp	Ala	Ala
	50					55					60				
Asp	Lys	Asn	Thr	Asp	Ile	Val	Val	Ala	Val	Gly	Gly	Asp	Gly	Thr	Ile
65					70					75				80	
Asn	Glu	Ile	Ala	Arg	Ser	Leu	Val	His	Thr	Asn	Thr	Ala	Leu	Gly	Ile
				85					90					95	
Ile	Pro	Cys	Gly	Ser	Gly	Asn	Gly	Leu	Ala	Arg	His	Leu	Gln	Ile	Ser
			100					105					110		
Met	Asp	Pro	Arg	Lys	Ala	Leu	Glu	Ile	Leu	Asn	Asp	Gly	Ile	Ile	Asp
		115					120					125			
Ile	Ile	Asp	Tyr	Gly	Lys	Ile	Asn	Gly	Thr	Asp	Phe	Phe	Cys	Thr	Cys
	130					135					140				
Gly	Val	Gly	Phe	Asp	Ala	Phe	Val	Ser	Leu	Lys	Phe	Ala	Asn	Ala	Gly
145					150					155				160	
Lys	Arg	Gly	Leu	Leu	Thr	Tyr	Leu	Glu	Lys	Thr	Leu	Gln	Glu	Ser	Leu
				165					170					175	
Lys	Tyr	Gln	Pro	Glu	Thr	Tyr	Glu	Leu	Glu	Thr	Glu	Asp	Gly	Thr	Ser
			180				185						190		
Lys	Tyr	Lys	Ala	Phe	Leu	Ile	Ala	Cys	Gly	Asn	Ala	Ser	Gln	Tyr	Gly
	195						200					205			
Asn	Asn	Ala	Tyr	Ile	Ala	Pro	Gln	Ala	Thr	Leu	Thr	Asp	Gly	Leu	Leu
	210					215						220			
Asp	Val	Thr	Ile	Leu	Glu	Pro	Phe	Thr	Val	Leu	Asp	Val	Pro	Ala	Leu
225					230				235					240	
Ala	Phe	Gln	Leu	Phe	Asn	Lys	Thr	Ile	Asp	Gln	Asn	Ser	Arg	Ile	Lys
				245					250					255	
Thr	Phe	Arg	Cys	Lys	Lys	Leu	Cys	Ile	His	Arg	Ser	Ser	Pro	Gly	Val
			260					265					270		
Val	His	Phe	Asp	Gly	Asp	Pro	Met	Gln	Ala	Asp	Glu	Asp	Ile	Lys	Ile
		275					280					285			
Glu	Leu	Ile	Gln	Lys	Gly	Leu	Arg	Val	Val	Val	Pro	Gly	Asp	Lys	Lys
	290					295					300				
Lys	Asp	Asn	Pro	Asn	Val	Leu	Gln	Lys	Ala	Gln	Glu	Tyr	Val	Asn	Gly
305					310					315				320	
Ile	Lys	Leu	Ile	Asn	Glu	Ala	Ile	Val	Glu	Asp	Ile	Ala	His	Lys	Asn
				325					330					335	
Lys	Val	Ile	Leu	Lys	Lys	Asn	Lys	Gln	Leu	Ile	Gln	Lys	Leu	Thr	Lys
			340					345					350		

Lys

&lt;210&gt; 5427

&lt;211&gt; 316

<212> PRT  
 <213> B.fragilis

<400> 5427

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Met Ile Met Pro Lys Asn Tyr Thr Leu Gln Asn Ala Ser Asn Leu Gly
1      5      10      15
Trp Leu Phe Tyr Lys Asp Tyr Tyr Arg Gln Glu Pro Asn Val Asp Phe
      20      25      30
Ile Ser Thr Gln Gly Lys Glu Ser Asp Thr Thr Ala Asp Phe Phe Arg
      35      40      45
Lys Thr Asn Gln Arg Ile Thr Ala Tyr Gln Leu Asn Ser Glu Ser Pro
      50      55      60
Leu Val Ala Ala Phe Asn Asn His Phe Gly Thr Pro Leu Gln Leu Lys
      65      70      75      80
Thr Ile Tyr Pro Gly Leu Ile Thr Gly Ser Gly Leu Pro His Gln Thr
      85      90      95
Gly Ser Lys Gly Glu Phe Lys Leu Gly Phe Gln Phe Asp Tyr Thr Thr
      100     105     110
Gly Leu Pro Tyr Ile Pro Gly Ser Ser Ile Lys Gly Thr Leu Arg Ser
      115     120     125
Met Phe Pro Phe Ser Leu Lys Asp Lys Gly Ser Thr Lys Arg Ile Leu
      130     135     140
Pro Glu Tyr Arg Lys Glu Arg Met Glu Tyr Ile Arg Asp Leu Ile Ile
      145     150     155     160
Glu Val Thr Asn Ile Asn Glu Ile Ser Asp Thr Glu Ile Gln Ala Leu
      165     170     175
Glu Tyr Ala Ile Phe Thr Asn Ser Thr Pro Ser Gly Lys Thr Ile Glu
      180     185     190
Phe Ser Leu Glu Glu Lys Asp Val Phe Tyr Asp Ala Phe Val Ala Asp
      195     200     205
Ser Lys Asp Gly Val Met Leu Ser Asp Asp Tyr Ile Thr Pro His Gly
      210     215     220
Glu Asn Pro Leu Lys Asp Pro Lys Pro Ile Leu Phe Leu Lys Ile Arg
      225     230     235     240
Pro Asp Val Thr Ile Asn Phe Tyr Phe Lys Leu Cys Thr Thr His Leu
      245     250     255
Tyr Lys Glu Lys Val Cys Ser Ser Lys Gln Ile Glu Glu Ile Lys Lys
      260     265     270
Gln Asn Asp Phe Ser Ser Ser Asp Tyr Lys Met Ile Thr Ala His Gln
      275     280     285
Lys Arg Asn Leu Phe Glu Lys Ile Leu Leu Cys Ile Gly Ile Gly Ala
      290     295     300
Lys Thr Asn Ile Gly Tyr Gly Gln Leu Lys Lys Leu
      305     310     315

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<210> 5428  
 <211> 93  
 <212> PRT  
 <213> B.fragilis

<400> 5428

```

Gly Glu Lys Phe Arg His Asn Gly Leu Asp Lys Ile Val Met Asp Phe
1      5      10      15
Gly Ile Ala Phe Asn Ile Gly Lys Met Ile Asn Lys Gln Glu Lys Lys
      20      25      30
Lys Arg Gly Arg Thr Asn Leu Leu Val Thr Ile Leu Ile Ser Cys Gly
      35      40      45
Ile Ala Tyr Gln Lys Tyr Thr Lys Ala Ile Ile Leu Arg Gly Cys Pro
      50      55      60

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Lys Ser Lys Val Pro Pro Lys Ser Arg Ile Ala Pro Phe Thr Ile Val  
 65 70 75 80  
 Tyr Phe Gly Glu Lys Pro His Ile Thr Val Val Lys Asn  
 85 90

<210> 5429

<211> 134

<212> PRT

<213> B.fragilis

<400> 5429

Leu Ile Asp Thr Ile Arg Asn Met His Ile Ser His Ile Ala Ile Trp  
 1 5 10 15  
 Thr Thr Arg Leu Glu Glu Leu Arg Asn Phe Tyr Ile Thr Tyr Phe Asn  
 20 25 30  
 Gly Thr Ser Asn Glu Lys Tyr Ile Asn Pro Lys Lys Gly Phe Glu Ser  
 35 40 45  
 Tyr Phe Ile Ser Phe Asp Gln Gly Phe Ala Ser Leu Glu Ile Met Gln  
 50 55 60  
 Arg Glu Asp Ile Thr Thr Pro Ala Leu Lys Asp Cys Leu Gly Leu Ala  
 65 70 75 80  
 His Phe Ser Phe Ser Val Gly Ser Lys Glu Ala Val Leu Glu Leu Thr  
 85 90 95  
 Glu Gln Leu Arg Lys Asp Gly Phe Val Ile Glu Ser Glu Pro Arg Thr  
 100 105 110  
 Thr Gly Asp Gly Tyr Phe Glu Ser Ala Ile Leu Asp Pro Glu Gly Asn  
 115 120 125  
 Ile Val Glu Ile Thr Ile  
 130

<210> 5430

<211> 236

<212> PRT

<213> B.fragilis

<400> 5430

Leu Arg Val Thr Leu Asp Arg Val Ile Glu Asp Lys Glu Leu Gly Arg  
 1 5 10 15  
 Leu Val Val Arg Asp Asn Val Arg Ala Lys Arg Leu Val Phe Arg Thr  
 20 25 30  
 Lys Ala Asp Ala Ile Tyr Ile Ser Ile Pro Leu Gly Val Thr Met Arg  
 35 40 45  
 Glu Val Lys Glu Ala Ile Glu Lys Leu Arg Pro Arg Leu Leu Asp Ser  
 50 55 60  
 Arg Gln Lys Leu Val Arg Pro Leu Ile Asp Leu Asn Tyr Arg Ile Glu  
 65 70 75 80  
 Thr Glu Tyr Phe Lys Leu Ser Leu Val Ser Gly Lys Arg Glu Arg Phe  
 85 90 95  
 Leu Ala His Ser Glu Leu Gly Glu Met Arg Ile Ile Cys Pro Pro Thr  
 100 105 110  
 Ala Asp Phe Thr Asp Ser Asn Leu Gln Asp Trp Leu Arg Lys Val Ile  
 115 120 125  
 Glu Glu Ala Leu Arg Arg Asn Ala Lys Ile Ile Leu Pro Pro Arg Leu  
 130 135 140  
 Tyr Met Leu Ser Glu Lys His Arg Leu Pro Tyr Glu Ser Val Gln Ile  
 145 150 155 160  
 Asn Ser Ser Arg Gly Arg Trp Gly Ser Cys Ser Ser Arg Lys Lys Ile  
 165 170 175  
 Asn Leu Ser Tyr Phe Leu Val Leu Leu Pro Lys His Leu Ile Asp Tyr



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      180              185              190
Val Leu Leu His Glu Leu Cys His Thr Cys Glu Met Asn His Gly Asp
      195              200              205
Arg Phe Trp Asp Leu Leu Asn Gly Leu Thr Asp Gly Lys Ala Leu Glu
      210              215              220
Leu Arg Glu Glu Leu Lys Arg Tyr Lys Thr Glu Ile
      225              230              235

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<210> 5431  
 <211> 82  
 <212> PRT  
 <213> B.fragilis

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<400> 5431
Pro Leu Lys Thr Asn Arg Ser Met Arg Asn Phe Phe Val Ser Ala Phe
1              5              10              15
Leu Leu Leu Val Gly Ile Ala Val Met Thr Val Cys Arg Met Asn Asn
      20              25              30
Lys Gln Cys Leu Ser Glu Leu Ala Leu Val Asn Val Glu Ala Leu Ala
      35              40              45
Thr Gly Glu Gly Asp Val Pro Thr Ser Cys Tyr Gly Ser Gly Asn Val
      50              55              60
Asp Cys Pro Ile Ser Asp Ser Lys Val Ser Tyr Val Met Asn Gly Arg
      65              70              75              80
Ser Phe

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<210> 5432  
 <211> 501  
 <212> PRT  
 <213> B.fragilis

```

<400> 5432
His Ser Arg Thr Asp Lys Thr Ile Arg Ile Met Ile Tyr Ser Tyr His
1              5              10              15
Ile Phe Tyr Phe Pro Phe Lys Trp Glu Ile Met Gly Leu Glu Asn Gln
      20              25              30
Ala Phe Ser Asp Gln Val Asn Leu Asp Asn Ile Gln Tyr Asn Arg Asn
      35              40              45
Ser Tyr Trp Glu Arg Ser Gln Lys Pro Asp Pro Gly Glu Glu Glu Ser
      50              55              60
Leu Tyr Asn Glu Lys Asn Tyr Tyr Tyr Thr Phe Val His Asn Ile Leu
      65              70              75              80
Tyr Asp Glu Glu His Ser Pro Leu Asn Leu Ile His His Phe Glu Arg
      85              90              95
Lys Glu Pro Lys Leu Ser Asn His Ile Tyr Tyr Tyr Ile Lys Lys Lys
      100              105              110
Gly Arg Asn Asn Pro Tyr Lys Leu Ile Val Asp Ala Met Asn Ile Asn
      115              120              125
Leu Tyr Ala Thr Gly Val Gly Phe Leu Ser Phe Tyr Leu Lys Asn Glu
      130              135              140
Asp Cys Thr Gln Asn Ser Pro Glu Asp Ile Leu Ala Ile Asn Gln Tyr
      145              150              155              160
Gly Arg Arg Ile Met Pro Pro Phe Phe Asn Asp Thr Arg Leu Arg Asn
      165              170              175
Glu Ile Ser Glu Tyr Ile Arg Ile Glu Gly Leu Asn Gln Thr Val Tyr
      180              185              190
Phe Glu Asp Phe Lys Ser Tyr Thr Pro Tyr Asp Ser Trp Gln Pro Ser
      195              200              205

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Ser Ser Ile Lys Lys Leu Ile Cys Glu Leu Val Thr Asn Leu Ser Ile
210                215                220
Asp Pro Ile Ile Asp Asp Arg Met Phe Val Ala Thr Trp Tyr Lys Asn
225                230                235                240
Asn Gln Leu Ser Gln Gln Phe Thr Asn Asn Ala Lys Ala Tyr Phe Asp
                245                250                255
Ser Gln Asp Pro Phe Ser Asp Tyr Trp Tyr Arg Phe Leu Phe Ile Asp
                260                265                270
Gly Ser Asn Ala Thr Cys Gln Asn Glu Lys Met Lys Lys Glu Leu Leu
                275                280                285
Glu Glu His Thr Tyr Tyr Arg Trp Gln Gln Trp Ser Ser Leu Tyr Gly
290                295                300
Ile Ser Lys Tyr Ser Leu Val Tyr Leu Thr Asn Asn Glu Val Pro Asp
305                310                315                320
Tyr Leu Ile Glu Tyr Phe Gln Thr Ile Tyr Ala Arg Met Ala Glu Leu
                325                330                335
Val Leu Val Gln Arg Ala Ser Met Leu Arg Phe Ser Gly Glu Ile Thr
                340                345                350
Lys Val Ser Gln Leu Ser Asn Gln Asp Val Glu Ala Val Ser Lys Arg
                355                360                365
Val Ser Ser Leu Tyr Lys Glu Tyr Ile Arg Phe Val Asn Gln Ile Tyr
                370                375                380
Phe Arg Glu Ile Thr Ala Gln Asp Gln Gly Ile Glu Met Tyr Asn Lys
385                390                395                400
Leu His Ser Cys Leu Gln Met Glu Ser Tyr Ile Lys Asp Leu Asp Gly
                405                410                415
Glu Ile Glu Glu Leu His Gln Tyr Ile Ser Leu Met Glu Asp Arg Glu
                420                425                430
Arg Asn Lys Lys Ala Ser Leu Leu Asn Asp Ile Ala Thr Leu Phe Leu
                435                440                445
Pro Ile Thr Val Ile Thr Gly Phe Trp Gly Met Asn Gln Ile Ser Glu
                450                455                460
Val Met Glu Glu Asn Gly Glu Leu Ser Thr Gly Phe Ile Ile Gln Ser
465                470                475                480
Leu Leu Leu Ile Ile Gly Thr Leu Cys Ala Ile Cys Ile Ile Tyr Lys
                485                490                495
Arg Lys Arg Lys Leu
                500

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&lt;210&gt; 5433

&lt;211&gt; 265

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5433

```

Tyr Met Gly Thr Ile Asp Ile Ser Tyr Phe Asn Leu Leu Ile Gly Leu
1                5                10                15
Leu Leu Leu Val Ile Pro Leu Phe Tyr Leu Trp Lys Phe Lys Thr Gly
                20                25                30
Leu Leu Lys Ala Thr Leu Ile Gly Thr Ala Arg Met Ile Val Gln Leu
                35                40                45
Phe Leu Ile Gly Met Tyr Leu Lys Tyr Leu Phe Leu Trp Asn Asn Pro
50                55                60
Trp Ile Asn Phe Leu Trp Val Ile Ile Met Ile Phe Val Ala Gly Gln
65                70                75                80
Thr Ala Leu Val Arg Thr Gly Leu Lys Arg Glu Ile Leu Leu Ile Pro
                85                90                95
Ile Ser Val Gly Phe Leu Cys Ser Val Val Leu Val Gly Met Tyr Phe
                100                105                110

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Ile Gly Ile Val Leu Gln Leu Asp Asn Val Phe Ser Ala Gln Tyr Phe
      115              120              125
Ile Pro Ile Phe Gly Ile Leu Met Gly Asn Met Leu Ser Ser Asn Val
      130              135              140
Ile Ala Leu Asn Thr Tyr Tyr Ser Gly Leu Lys Arg Glu Gln Gln Leu
145              150              155              160
Tyr Cys Tyr Leu Leu Gly Asn Gly Ala Thr Arg Gln Glu Ala Gln Ala
      165              170              175
Pro Phe Ile Arg Glu Ala Ile Ile Lys Ser Phe Ser Pro Leu Ile Ala
      180              185              190
Asn Ile Ala Val Met Gly Leu Val Ala Leu Pro Gly Thr Met Ile Gly
      195              200              205
Gln Ile Leu Gly Gly Ser Ser Pro Asn Val Ala Ile Lys Tyr Gln Met
      210              215              220
Met Ile Met Val Ile Thr Phe Thr Ala Ser Met Leu Ser Leu Met Ile
225              230              235              240
Thr Ile Ser Leu Ala Ser Arg Lys Ser Phe Asp Glu Tyr Gly Arg Ile
      245              250              255
Leu Gln Val Thr Lys Glu Ser Gln Lys
      260              265

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&lt;210&gt; 5434

&lt;211&gt; 667

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5434

```

Glu Tyr Met Thr Val Lys Glu Lys Ile Glu Gln Leu Arg Leu Gln Leu
1      5      10      15
His Gln His Asn Tyr Asn Tyr Tyr Val Leu Asn Ala Pro Glu Ile Ser
      20      25      30
Asp Lys Glu Phe Asp Asp Leu Met Arg Glu Leu Gln Asp Leu Glu Gln
      35      40      45
Glu His Pro Glu Tyr Lys Asp Glu Asn Ser Pro Thr Met Arg Val Gly
      50      55      60
Ser Asp Ile Asn Lys Asn Phe Thr Gln Val Ala His Lys Tyr Pro Met
65      70      75      80
Leu Ser Leu Ser Asn Thr Tyr Ser Glu Asn Glu Val Thr Asp Phe Tyr
      85      90      95
Asp Arg Val Arg Lys Ala Leu Asn Glu Asp Phe Glu Ile Cys Cys Glu
      100      105      110
Met Lys Tyr Asp Gly Thr Ser Ile Ser Leu Thr Tyr Glu Asn Gly Lys
      115      120      125
Leu Ile Arg Ala Val Thr Arg Gly Asp Gly Glu Lys Gly Asp Asp Val
      130      135      140
Thr Asp Asn Val Lys Thr Ile Arg Ser Ile Pro Leu Val Leu His Gly
145      150      155      160
Asp Asn Tyr Pro Glu Val Phe Glu Ile Arg Gly Glu Ile Leu Met Pro
      165      170      175
Trp Glu Val Phe Glu Ala Leu Asn Arg Glu Lys Glu Ala Arg Glu Glu
      180      185      190
Pro Leu Phe Ala Asn Pro Arg Asn Ala Ala Ser Gly Thr Leu Lys Leu
      195      200      205
Gln Asn Ser Ala Ile Val Ala Ser Arg Lys Leu Asp Ala Tyr Leu Tyr
      210      215      220
Tyr Leu Leu Gly Asp Asn Leu Pro Thr Asp Gly His Tyr Glu Asn Leu
225      230      235      240
Gln Glu Ala Ala Lys Trp Gly Phe Lys Ile Ser Pro Leu Met Arg Lys
      245      250      255

```

Cys Gln Thr Leu Gln Glu Val Phe Asp Phe Ile Asn Tyr Trp Asp Val  
 260 265 270  
 Glu Arg Lys Asn Leu Asn Val Ala Thr Asp Gly Ile Val Leu Lys Val  
 275 280 285  
 Asn Ser Leu Lys Gln Gln Arg Asn Leu Gly Phe Thr Ala Lys Ser Pro  
 290 295 300  
 Arg Trp Ala Ile Ala Tyr Lys Phe Gln Ala Glu Arg Ala Leu Thr Arg  
 305 310 315 320  
 Leu Asn Met Val Thr Tyr Gln Val Gly Arg Thr Gly Ala Val Thr Pro  
 325 330 335  
 Val Ala Asn Leu Asp Pro Val Gln Leu Ser Gly Thr Val Val Lys Arg  
 340 345 350  
 Ala Ser Leu His Asn Ala Asp Ile Ile Glu Gly Leu Asp Leu His Ile  
 355 360 365  
 Gly Asp Met Val Tyr Val Glu Lys Gly Gly Glu Ile Ile Pro Lys Ile  
 370 375 380  
 Thr Gly Val Asp Thr Ser Ala Arg Phe Met Ile Gly Glu Lys Val Lys  
 385 390 395 400  
 Phe Ile Thr His Cys Pro Glu Cys Gly Ser Lys Leu Ile Arg Tyr Glu  
 405 410 415  
 Gly Glu Ala Ala His Tyr Cys Pro Asn Glu Thr Ala Cys Pro Pro Gln  
 420 425 430  
 Ile Lys Gly Lys Ile Glu His Phe Ile Ser Arg Lys Ala Met Asn Ile  
 435 440 445  
 Asp Gly Leu Gly Pro Glu Thr Ile Asp Met Phe Tyr Arg Leu Gly Leu  
 450 455 460  
 Ile Arg Asp Thr Ala Asp Leu Tyr Gln Leu Thr Thr Asp Asp Ile Arg  
 465 470 475 480  
 Gly Leu Asp Arg Met Gly Asp Lys Ser Ala Glu Asn Ile Ile Lys Gly  
 485 490 495  
 Ile Met Gln Ser Lys Glu Val Pro Phe Glu Arg Val Ile Phe Ala Leu  
 500 505 510  
 Gly Ile Arg Phe Val Gly Glu Thr Val Ala Lys Lys Ile Ala Lys Ser  
 515 520 525  
 Phe Lys Asp Ile Glu Glu Leu Glu Asn Ala Asp Leu Glu Thr Leu Ile  
 530 535 540  
 Asn Ile Asp Glu Ile Gly Glu Lys Ile Ala Arg Ser Ile Leu Asn Tyr  
 545 550 555 560  
 Phe Ala Asn Glu Ser Asn Arg Lys Leu Val Asp Arg Leu Lys Thr Ala  
 565 570 575  
 Gly Leu Gln Leu Tyr Arg Pro Glu Glu Asp Leu Ser Gly His Thr Asp  
 580 585 590  
 Lys Leu Ala Gly Gln Ser Ile Val Ile Ser Gly Val Phe Thr His His  
 595 600 605  
 Ser Arg Asp Glu Tyr Lys Asp Leu Ile Glu Lys His Gly Gly Lys Asn  
 610 615 620  
 Val Gly Ser Ile Ser Ser Lys Thr Ser Phe Ile Leu Ala Gly Asp Asn  
 625 630 635 640  
 Met Gly Pro Ala Lys Leu Glu Lys Ala Ser Lys Leu Gly Ile Lys Ile  
 645 650 655  
 Met Asn Glu Glu Glu Phe Leu Lys Leu Ile Ser  
 660 665

&lt;210&gt; 5435

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5435

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Ile Tyr Leu Ala Lys Leu Val Lys Ile His Asn Met Cys Gly Ile Ser
1          5          10          15
Phe Ile Phe Val Ser Leu Ile Asn Glu Arg Asp Met Ile Leu Asn Glu
20          25          30
Arg Asp Ser Arg His Glu His Val Leu Asn Val Ala Arg Gln Met Met
35          40          45
Thr Ala Ala Arg Thr Ala Pro Lys Gly Lys Gly Ile Asp Ile Ile Glu
50          55          60
Thr Ala Ile Val Thr Gly Glu Glu Ile Gln Gln Leu Ser Asp Thr Leu
65          70          75          80
Lys Ala Met Phe Glu Glu Phe Gly Met Lys Phe Phe Leu Arg Asp Ala
85          90          95
Asp Asn Ile Leu Gln Ala Glu Cys Ile Leu Leu Ile Gly Thr Arg Glu
100         105         110
Gln Ala Gln Gly Leu Asn Cys Gly His Cys Gly Tyr Ala Thr Cys Ser
115         120         125
Gly Arg Ser Glu Gly Val Pro Cys Ala Leu Asn Ser Ile Asp Val Gly
130         135         140
Ile Ala Ile Gly Ser Ala Cys Ala Thr Ala Ala Asp Leu Arg Val Asp
145         150         155         160
Thr Arg Val Met Phe Ser Ala Gly Leu Ala Ala Gln Arg Leu Glu Trp
165         170         175
Leu Lys Gly Cys Arg Gln Val Met Ala Ile Pro Val Ser Ala Ser Ser
180         185         190
Lys Asn Pro Phe Phe Asp Arg Lys Pro Lys
195         200

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<210> 5436 .
<211> 604
<212> PRT
<213> B.fragilis

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<400> 5436
Asn Asn Asn Ala Met Lys Tyr Ile Ala Ile Thr Leu Gly Pro Ile Thr
1          5          10          15
Arg Thr Ile Glu Met Ala Glu Ser Thr Lys Glu Leu Trp Ala Ala Ser
20          25          30
Tyr Phe Phe Ser Tyr Leu Ala Lys Lys Ile Val Glu Pro Phe Val Lys
35          40          45
Lys Asn Arg Thr Phe Gln Leu Pro Leu Ile Asn Glu Glu Met Gln Lys
50          55          60
Pro His Cys Gly Ala Gly Leu Phe Pro Asp Arg Tyr Ile Phe Lys Ser
65          70          75          80
Glu Pro Glu Asp Leu Glu Leu Leu Lys Gln His Ser Asp Gln Val Leu
85          90          95
Ile Glu Ile Ala Gly His Ile Ala Ser Pro Ser Leu Pro Gly Thr Ala
100         105         110
Lys Asp Val Ser Gln Ile Tyr His Tyr Leu Lys Ser Tyr Ile Lys Ile
115         120         125
Tyr Phe Ile Glu Arg Thr Leu Glu Ser Asp Asp Pro His Val Val Ile
130         135         140
Pro Ala Cys Glu Lys Tyr Leu Asn Ile Ile Glu Asn Gln Glu Thr Phe
145         150         155         160
Pro Glu Gln Glu Glu Thr Met Ile Ser His Gln Lys Ser Asp Phe Leu
165         170         175
Lys Phe Leu Ile Thr Asn Val Asn Gly Lys Ile Tyr Arg Lys Asp Lys
180         185         190
Asn Ser Ile Pro Arg Phe Thr Gly Ser Phe Leu Thr Arg Asp Ala Phe
195         200         205

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Gly Asp Met Asn Gly Glu Arg Leu Phe Glu Ser Ile Leu Glu Ile Ser  
 210 215 220  
 Ala Ser Glu Leu Asn Ile Asn Ile Gln Gln Lys Ala Leu Glu Val Ile  
 225 230 235 240  
 Thr Ala Asn Glu Lys Asn Lys Gly Glu Lys Tyr Ser Asp Gln Ile Trp  
 245 250 255  
 Asp Ala Glu Glu Ile Ile Leu Asn Asp Asn Lys Ala Gln Leu Arg Pro  
 260 265 270  
 Tyr His Lys Tyr Ile Ala Ile Ile Lys Ser Asp Gly Asp Ser Met Gly  
 275 280 285  
 Glu Thr Ile Lys Ser Met Gly Ala Tyr Asn Ile Pro Ile Thr Gln Leu  
 290 295 300  
 Ser Lys Ala Leu Leu Ser Phe Asn Ile Glu Ser Ile Asn Glu Ile Val  
 305 310 315 320  
 Ala Tyr Gly Gly Lys Pro Ile Phe Ile Gly Gly Asp Asp Leu Leu Cys  
 325 330 335  
 Phe Ala Pro Val Cys Cys Asn Gly Asn Asn Val Phe Asn Leu Val Glu  
 340 345 350  
 Lys Leu Ser Thr Cys Phe Asp Gln Cys Ile Asn Gln His Leu Gln Gln  
 355 360 365  
 Tyr Ile Asn Ala Cys Ser Glu Ala Gln Arg Pro Leu Pro Ser Leu Ser  
 370 375 380  
 Phe Gly Ile Ser Ile Thr Tyr His Lys Tyr Pro Met Phe Glu Ala Leu  
 385 390 395 400  
 His Thr Thr Asp Tyr Leu Leu Glu Met Val Ala Lys Asp Asn Leu Phe  
 405 410 415  
 Lys Tyr Thr Leu Ser Asn Lys Asn Ile Leu Asn Glu Asn Met Lys Arg  
 420 425 430  
 Phe Ile Leu Lys Asn Lys Leu Ala Phe Ser Leu Gln Lys His Ser Gly  
 435 440 445  
 Gln Ile Tyr His Thr Ala Met Ser Lys Lys Gly Lys Ser Tyr Val Lys  
 450 455 460  
 Phe Asn Met Leu Leu Gln Lys Tyr Ile Leu Lys Asn Lys Asp Met Ser  
 465 470 475 480  
 Lys Thr Gln Glu Ser Glu Lys Phe Leu Ser Ser Val Ile Gln Met Ile  
 485 490 495  
 Arg Ala His Ala Glu Ile Leu Gln Ile Ile Leu Gln Asn Glu Asp Lys  
 500 505 510  
 Arg Thr Glu Met Leu Lys Asn Tyr Phe Asp Asn Asn Phe Asn Glu Ser  
 515 520 525  
 Cys His Leu Gly Tyr Thr Gly Leu Phe Glu Asp Ile Gln Thr Leu Leu  
 530 535 540  
 Cys Leu Arg Tyr Gln Glu Asn Ile Gln Asp Tyr Gln Asn Arg Asn Glu  
 545 550 555 560  
 Ile Ile Gln Gln Asn Thr Ile Leu Thr Ser Asp Glu Lys Glu Ile Leu  
 565 570 575  
 Ile Val Ser Pro Ala Met Asp Ala Ile His Thr Ile Phe Thr Ala Leu  
 580 585 590  
 Gln Phe Ile His Phe Ile Asn Tyr Asn Lys Asp Glu  
 595 600

<210> 5437  
 <211> 305  
 <212> PRT  
 <213> B.fragilis

<400> 5437  
 Thr Ile Met Ala Asp Leu Ser Val Asn Ile Gly Lys Leu Gln Met Lys  
 1 5 10 15

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Asn Pro Val Met Thr Ala Ser Gly Thr Phe Gly Tyr Gly Glu Glu Phe
    20                      25                      30
Ala Asp Phe Ile Asp Ile Thr Arg Ile Gly Gly Ile Ile Val Lys Gly
    35                      40                      45
Thr Thr Leu His Lys Arg Glu Gly Asn Pro Tyr Pro Arg Met Ala Glu
    50                      55                      60
Thr Pro Ser Gly Met Leu Asn Ala Val Gly Leu Gln Asn Lys Gly Val
    65                      70                      75                      80
Glu Tyr Phe Ser Asn His Ile Tyr Pro Arg Ile Lys Asp Ile Gln Thr
    85                      90                      95
His Met Ile Val Asn Val Ser Gly Ser Ala Ile Glu Asp Tyr Val Lys
    100                     105                     110
Thr Ala Glu Ile Ile Asn Glu Leu Asp Lys Ile Pro Ala Ile Glu Leu
    115                     120                     125
Asn Ile Ser Cys Pro Asn Val Lys Gln Gly Gly Met Ala Phe Gly Val
    130                     135                     140
Thr Thr Lys Gly Val Ser Glu Val Val Gln Ala Val Arg Ser Ala Tyr
    145                     150                     155                     160
Lys Lys Thr Leu Ile Val Lys Leu Ser Pro Asn Val Thr Asp Ile Ala
    165                     170                     175
Glu Met Ala Arg Ala Ala Glu Ala Asn Gly Ala Asp Ser Val Ser Leu
    180                     185                     190
Ile Asn Thr Leu Leu Gly Met Ala Ile Asp Ala Glu Arg Lys Arg Pro
    195                     200                     205
Ile Leu Ser Thr Val Thr Gly Gly Met Ser Gly Ala Ala Val Lys Pro
    210                     215                     220
Ile Ala Leu Arg Met Val Trp Gln Val Ala Lys Ala Val Asn Ile Pro
    225                     230                     235                     240
Val Ile Gly Leu Gly Gly Ile Met Asn Trp Lys Asp Ala Val Glu Phe
    245                     250                     255
Met Leu Ala Gly Ala Ser Ala Ile Gln Ile Gly Thr Ala Asn Phe Ile
    260                     265                     270
Asp Pro Ala Ile Thr Ile Lys Val Ile Asp Gly Ile Asn Asp Tyr Leu
    275                     280                     285
Glu Arg His Gly Cys Lys Ser Val Pro Glu Ile Ile Gly Ala Leu Glu
    290                     295                     300
Val
305

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<210> 5438
<211> 431
<212> PRT
<213> B.fragilis

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<400> 5438
Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe
1      5      10      15
Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro
20     25     30
Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr
35     40     45
Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly
50     55     60
Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser
65     70     75     80
Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala
85     90     95
Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly
100    105    110

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Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile  
 115 120 125  
 Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp  
 130 135 140  
 Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
 145 150 155 160  
 Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
 165 170 175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
 180 185 190  
 Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
 195 200 205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
 210 215 220  
 Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
 225 230 235 240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
 245 250 255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn  
 260 265 270  
 Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile  
 275 280 285  
 Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu  
 290 295 300  
 Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg  
 305 310 315 320  
 Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe  
 325 330 335  
 Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe  
 340 345 350  
 Met Ala Glu Asn Thr Val Phe Leu Leu Leu Thr Ala Leu Ile His Asn  
 355 360 365  
 Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu  
 370 375 380  
 Lys Lys Thr Ser Arg Ile Lys Ser Phe Val Phe Arg Phe Ile Ser Val  
 385 390 395 400  
 Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr  
 405 410 415  
 Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Gly  
 420 425 430

&lt;210&gt; 5439

&lt;211&gt; 761

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5439

Ile Tyr Asn Leu Asn Met Pro Asp Tyr Tyr His Ser Ile Thr Thr Leu  
 1 5 10 15  
 His Ala Leu Gln Asn Ala Trp Arg Ala Val Arg Ala Lys Asn Ala Ala  
 20 25 30  
 Gly Gly Ile Asp Gly Phe Thr Leu Ser His Phe Glu Lys Arg Leu Asn  
 35 40 45  
 Asp Asn Leu Ile Glu Leu Gln His Glu Leu Ile Ser Gln Thr Trp Asn  
 50 55 60  
 Pro Glu Pro Tyr Leu Arg Ile Glu Ile Thr Lys Asn Glu Thr Glu Lys  
 65 70 75 80  
 Arg Lys Leu Gly Leu Leu Cys Ile Lys Asp Lys Ile Val Gln Gln Ala  
 85 90 95



Ile Lys Thr Ala Ile Glu Pro Gln Leu Glu Lys Thr Phe Leu Asn Leu  
 100 105 110  
 Ser Tyr Gly Tyr Arg Pro Asn Lys Gly Pro Glu Arg Ala Ile Lys Arg  
 115 120 125  
 Val Val His Asp Leu Lys Lys Leu Lys Ser Gly Tyr Val Ala Lys Leu  
 130 135 140  
 Asp Ile Asp Asn Tyr Phe Asp Thr Ile Asn His Glu Arg Leu Phe Thr  
 145 150 155 160  
 Arg Leu Ala Asn Trp Leu Lys Asp Asp Glu Thr Leu Arg Leu Ile Arg  
 165 170 175  
 Leu Cys Ile Gln Thr Gly Ile Val Thr Pro Gln Leu Gln Trp Gln Glu  
 180 185 190  
 Ile Asn Lys Gly Val Pro Gln Gly Ala Ile Leu Ser Pro Leu Leu Ala  
 195 200 205  
 Asn Phe Tyr Leu His Pro Phe Asp Gln Phe Ala Ala Asn Lys Val Pro  
 210 215 220  
 Met Tyr Ile Arg Tyr Ala Asp Asp Phe Leu Ile Ala Thr Ser Thr Glu  
 225 230 235 240  
 Lys Gln Ile Lys Glu Ala Val Glu Leu Val Lys Glu Glu Leu Glu Ser  
 245 250 255  
 Gln Phe Tyr Leu Gln Leu Asn Thr Pro Ile Ile His Asn Phe His Asp  
 260 265 270  
 Gly Ile Glu Phe Leu Gly Ile Thr Ile Ser Asp Thr Gly Leu Ser Ile  
 275 280 285  
 Thr Glu Lys Lys Lys Lys Thr Leu Gln Glu Arg Ile Asn Ser Ile Lys  
 290 295 300  
 Phe Ile Lys Ser Ser Leu Ser Ser Gln Ser Lys Glu Thr Leu Gln Gly  
 305 310 315 320  
 Ile Lys Asn Tyr Tyr Ala Lys Leu Leu Pro Glu Ser Thr Leu Lys Glu  
 325 330 335  
 Leu Asp Cys Phe Leu Met Asn Arg Leu Asn Ala Leu Ile Ile Arg Asn  
 340 345 350  
 Gln Asn Ser Ile Asn Asn Lys Lys Glu Leu Val Ser Asn Leu Gln Lys  
 355 360 365  
 Ile Glu Phe Tyr Ser Glu Asn Ser Asn Lys Asn Lys Ser Gln Leu Ile  
 370 375 380  
 Gln Gln Leu Cys Ser Thr Tyr Ile Val His Ser Thr Lys Ser Lys Thr  
 385 390 395 400  
 Arg Leu Thr Ser Thr His Ile Asp Asn Thr Lys Leu Ile Thr Gln Lys  
 405 410 415  
 Lys Lys Glu Tyr Gln Lys Arg Glu Asn Glu Gly Ala Glu Leu Val Ile  
 420 425 430  
 Ser Ile Pro Gly Ser Tyr Ile Gly Ala Thr Tyr Lys Gly Ile Thr Val  
 435 440 445  
 Lys Leu Gln Gly Lys Ile Ile Asn Lys Pro Ser Pro Ala Leu Lys His  
 450 455 460  
 Ile Thr Val Val Gly Lys Gly Ile Ser Leu Ser Ser Asn Ala Ile Thr  
 465 470 475 480  
 Tyr Cys Met Asn His Lys Ile Pro Ile Asp Phe Phe Asp Gly Arg Gly  
 485 490 495  
 Lys Gln Tyr Gly Thr Val Leu Asn Pro Val Phe Leu Asp Val Thr Leu  
 500 505 510  
 Trp Asn Lys Gln Val Glu Leu Pro Leu Glu Gln Lys Ile Lys Leu Ala  
 515 520 525  
 Thr Gln Ile Ile Ile Gly Lys Leu Lys Asn Gln Leu Asn Leu Ile Lys  
 530 535 540  
 Tyr Tyr His Lys Tyr His Lys Asp Ile Leu Gly Gly Lys Leu Ser Glu  
 545 550 555 560  
 Lys Tyr Val Glu Val Val Leu Lys Ile Asp Lys Leu Ile Glu Lys Ala

565 570 575  
 Lys Asn Tyr Ser Gln Arg Asn Glu Lys Tyr Thr Ala Glu Leu Met Ala  
 580 585 590  
 Ile Glu Ser Gln Ala Ala Ile Ala Tyr Trp Ser Tyr Ile Arg Val Leu  
 595 600 605  
 Thr Ala Asp Asp Gly Ile Asp Phe Ile Arg Arg Glu His Gln Gly Ala  
 610 615 620  
 Thr Asp Leu Leu Asn Ser Leu Leu Asn Tyr Gly Tyr Ala Ile Leu Tyr  
 625 630 635 640  
 Ala Arg Val Trp Lys Asn Ile Leu Ala Ala Lys Leu Asn Pro Ser Ile  
 645 650 655  
 Gly Val Leu His Ala Lys Gln Asp Gly Lys Pro Thr Leu Val Phe Asp  
 660 665 670  
 Val Val Glu Leu Phe Arg Ala Gln Met Val Asp Arg Val Val Ile Ser  
 675 680 685  
 Leu Ile Gln Lys Lys Val Ser Leu Lys Met His Asp Gly Leu Leu Asn  
 690 695 700  
 Glu Ser Ser Lys Arg Val Leu Ile Arg Tyr Ile Leu Glu Arg Leu Asn  
 705 710 715 720  
 Arg Tyr Glu Lys Tyr Arg Gly Glu Glu Ile Thr Phe Ser Gln Ile Ile  
 725 730 735  
 Leu Arg Gln Ala Gln Glu Ile Ala Leu Phe Ile Ser Gly Asp Asn Leu  
 740 745 750  
 Ile Phe Lys Pro Tyr Val Ala Lys Trp  
 755 760

<210> 5440  
 <211> 72  
 <212> PRT  
 <213> B.fragilis

<400> 5440  
 Ser His Asn Phe Pro Phe Lys Trp Lys Ile Lys Tyr Val Ile Thr Ile  
 1 5 10 15  
 Tyr His Asn Ser Asn Ser Phe Ile Cys Ser Thr Met Leu Ser Ile Ser  
 20 25 30  
 Phe Val Val Arg Arg Leu Arg Thr Val Pro Ile Asn Pro Leu Ile Pro  
 35 40 45  
 Pro Pro Gln Lys Ile Leu Leu Ile Gly Val Tyr Arg Phe Asn Ile Phe  
 50 55 60  
 Trp Ile Glu Phe Ile Pro Phe Pro  
 65 70

<210> 5441  
 <211> 345  
 <212> PRT  
 <213> B.fragilis

<400> 5441  
 Arg His Thr Tyr Ile Tyr Met Ala Lys Gln Glu Leu Thr Cys Asp Asp  
 1 5 10 15  
 Ile Leu Lys Glu Leu Arg Ala Lys Gln Tyr Arg Pro Ile Tyr Tyr Leu  
 20 25 30  
 Met Gly Glu Glu Ser Tyr Tyr Ile Asp Leu Ile Ala Asp Tyr Ile Thr  
 35 40 45  
 Asp Asn Val Leu Thr Asp Thr Glu Lys Glu Phe Asn Leu Thr Val Val  
 50 55 60  
 Tyr Gly Ala Asp Val Asp Val Ala Thr Val Ile Asn Ala Ala Lys Arg  
 65 70 75 80

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Tyr Pro Met Met Ser Glu His Gln Val Val Ile Val Lys Glu Ala Gln
      85                      90                      95
Ala Ile Arg Asn Ile Glu Glu Leu Ser Tyr Tyr Leu Gln Lys Pro Leu
      100                      105                      110
Asn Ser Thr Ile Leu Val Val Cys His Lys His Gly Ala Leu Asp Arg
      115                      120                      125
Arg Lys Lys Leu Ala Ala Glu Ile Glu Lys Thr Gly Ile Leu Phe Glu
      130                      135                      140
Ser Lys Lys Ile Lys Glu Ala Gln Leu Pro Ala Phe Ile Ser Ser Tyr
      145                      150                      155                      160
Met Lys Arg Lys Gly Ile Asp Met Glu Pro Lys Ala Thr Ala Met Leu
      165                      170                      175
Ala Asp Phe Val Gly Thr Asp Leu Ser Arg Leu Thr Gly Glu Leu Glu
      180                      185                      190
Lys Leu Ile Ile Thr Leu Pro Gly Gly Gln Lys Arg Val Thr Pro Glu
      195                      200                      205
Gln Ile Glu Lys Asn Ile Gly Ile Ser Lys Asp Tyr Asn Asn Phe Glu
      210                      215                      220
Leu Arg Ser Ala Leu Val Glu Lys Asp Val Leu Lys Ala Asn Lys Ile
      225                      230                      235                      240
Ile Lys Tyr Phe Glu Glu Asn Pro Lys Thr Asn Pro Ile Gln Met Thr
      245                      250                      255
Leu Ser Leu Leu Phe Asn Phe Tyr Ser Asn Leu Met Leu Ala Tyr Tyr
      260                      265                      270
Ala Pro Asp Lys Ser Glu Gln Gly Val Ala Thr Met Leu Gly Leu Lys
      275                      280                      285
Thr Pro Trp Gln Ala Arg Asp Tyr Leu Thr Ala Met Arg Lys Tyr Thr
      290                      295                      300
Gly Val Lys Thr Met Gln Ile Val Gly Glu Ile Arg Tyr Ala Asp Ala
      305                      310                      315                      320
Lys Ser Lys Gly Val Gly Asn Thr Ser Ile Ser Asp Gly Asp Ile Leu
      325                      330                      335
Arg Glu Leu Val Phe Lys Ile Leu His
      340                      345

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&lt;210&gt; 5442

&lt;211&gt; 777

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5442

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Phe Asn Pro Leu Tyr Ser Val Leu Leu Asp Leu Met Lys Lys Asn Leu
1      5      10      15
Leu Leu Leu Phe Leu Phe Leu Leu Phe Leu Pro Met Leu Val Gln Ala
      20      25      30
Gln Lys Val Gly Leu Val Leu Ser Gly Gly Gly Ala Lys Gly Leu Thr
      35      40      45
His Ile Gly Ile Ile Arg Ala Leu Glu Glu Asn Asn Ile Pro Ile Asp
      50      55      60
Tyr Ile Thr Gly Thr Ser Met Gly Ala Ile Val Gly Ser Leu Tyr Ala
      65      70      75      80
Met Gly Tyr Ser Pro Asp Asp Met Glu Thr Leu Leu Lys Ser Glu Asp
      85      90      95
Phe Lys Arg Trp Tyr Ser Gly Glu Val Glu Glu Lys Tyr Met Tyr Tyr
      100      105      110
Phe Lys Lys Asn Leu Pro Thr Pro Glu Phe Phe Asn Ile Arg Phe Ser
      115      120      125
Phe Lys Asp Ser Leu Ser Leu Lys Pro Gln Phe Leu Pro Thr Ser Val
      130      135      140

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Val	Asn	Pro	Ile	Gln	Met	Asn	Leu	Val	Phe	Ile	Asp	Leu	Tyr	Ala	Arg
145					150					155					160
Ala	Thr	Ala	Ala	Cys	Asp	Gly	Asp	Phe	Asp	Lys	Leu	Phe	Val	Pro	Phe
				165					170						175
Arg	Cys	Ile	Ala	Ser	Asp	Val	Tyr	Asn	Lys	Lys	Gln	Leu	Ile	Leu	Lys
			180					185					190		
Arg	Gly	Asp	Leu	Gly	Asp	Ala	Val	Arg	Ala	Ser	Met	Ser	Phe	Pro	Phe
	195						200					205			
Met	Phe	Lys	Pro	Ile	Glu	Ile	Asp	Ser	Met	Leu	Ala	Tyr	Asp	Gly	Gly
	210					215						220			
Ile	Tyr	Asn	Asn	Phe	Pro	Thr	Asp	Val	Met	Arg	Glu	Asp	Phe	His	Pro
225					230					235					240
Asp	Ile	Ile	Ile	Gly	Ser	Val	Val	Ser	Thr	Asn	Pro	Gly	Lys	Pro	Lys
				245					250					255	
Glu	Asn	Asp	Leu	Met	Ser	Gln	Ile	Glu	Asn	Met	Val	Met	Gln	Lys	Thr
			260					265					270		
Asp	Tyr	Ser	Leu	Pro	Asp	Ser	Ala	Gly	Ile	Leu	Met	Thr	Phe	Lys	Tyr
	275						280					285			
Asn	Asp	Val	Ser	Leu	Met	Asp	Phe	Gln	Arg	Ile	Asp	Glu	Leu	Glu	Lys
	290					295					300				
Ile	Gly	Tyr	Asp	Arg	Thr	Met	Ser	Leu	Met	Asp	Ser	Ile	Lys	Ser	Arg
305					310					315					320
Ile	His	Arg	Arg	Val	Asn	Val	Asp	Asn	Ile	Arg	Leu	Arg	Arg	Leu	Val
				325					330					335	
Tyr	Lys	Ser	Asn	Tyr	Pro	Glu	Leu	Arg	Phe	Lys	Asn	Ile	Tyr	Ile	Asp
			340					345					350		
Gly	Ala	Asn	Thr	His	Gln	Gln	Val	Tyr	Ile	Lys	Lys	Glu	Phe	His	Thr
			355				360					365			
Ser	Asp	Asp	Lys	Glu	Phe	Thr	Tyr	Glu	Asp	Leu	Lys	Arg	Gly	Tyr	Phe
	370					375				380					
Arg	Leu	Leu	Ser	Asp	Asn	Met	Ile	Ser	Glu	Ile	Ile	Pro	His	Ala	Val
385					390					395					400
Phe	Asn	Pro	Glu	Asp	Asp	Thr	Tyr	Asp	Leu	His	Leu	Lys	Ile	Lys	Met
				405					410					415	
Glu	Asn	Glu	Phe	Ser	Val	Arg	Val	Gly	Gly	Asn	Val	Ser	Thr	Thr	Ser
			420					425					430		
Ser	Asn	Gln	Ile	Tyr	Leu	Gly	Leu	Ala	Tyr	Gln	Asn	Leu	Asn	Tyr	Tyr
	435					440						445			
Ser	Lys	Glu	Phe	Thr	Leu	Asp	Gly	Gln	Leu	Gly	Lys	Ile	Tyr	Asn	Asn
	450					455					460				
Ala	Gln	Phe	Met	Ala	Lys	Val	Asp	Phe	Ala	Thr	Thr	Ile	Pro	Thr	Ser
465					470					475					480
Tyr	Arg	Phe	Ile	Ala	Ser	Ile	Ser	Thr	Phe	Asp	Tyr	Phe	Lys	Lys	Asp
				485					490					495	
Lys	Leu	Phe	Ser	Lys	Asn	Asp	Lys	Pro	Ala	Phe	Asn	Gln	Lys	Asp	Glu
			500					505					510		
Arg	Phe	Leu	Lys	Leu	Lys	Val	Ala	Leu	Pro	Phe	Leu	Ser	Ser	Lys	Arg
	515					520						525			
Leu	Glu	Leu	Gly	Phe	Gly	Ile	Ala	Gln	Ile	Glu	Asp	Arg	Tyr	Phe	Gln
530					535						540				
Asn	Asn	Val	Ile	Asp	Phe	Asp	Lys	Asp	Lys	Tyr	Asp	Lys	Ser	Gly	Tyr
545					550					555					560
Leu	Leu	Phe	Gly	Gly	Ser	Val	Ser	Phe	Asn	Gly	Ser	Thr	Leu	Asn	Ser
				565					570					575	
Arg	Gln	Phe	Pro	Ile	Gln	Gly	Ala	Arg	Glu	Ala	Leu	Val	Ala	Gln	Ile
			580					585					590		
Phe	Thr	Gly	Asn	Glu	Ser	Phe	Arg	Pro	Gly	Val	Asn	Ser	Glu	Asn	Lys
	595						600					605			
Lys	Pro	Val	Lys	Glu	Lys	His	Ser	Trp	Leu	Gln	Leu	Ser	Tyr	Met	Lys

610		615		620
Glu Lys Tyr His Lys Met Gly Ala Asn Trp Ile Leu Gly Trp Tyr Leu				
625		630		635
Asp Ala Val Tyr Ala Ser Lys Asn Phe Ser Glu Asn Tyr Thr Ala Thr				
	645		650	655
Met Met Gln Ala Ser Glu Phe Ala Pro Thr Ala His Ser Lys Leu Thr				
	660		665	670
Tyr Asn Glu Ala Phe Arg Ala Asn Gln Tyr Val Ala Ala Gly Ile Arg				
	675		680	685
Pro Ile Tyr Arg Leu Asn Gln Met Phe His Val Arg Gly Glu Phe Tyr				
	690		695	700
Gly Phe Leu Pro Ile Phe Pro Ile Glu Arg Asn Ser Ile Asn Lys Ala				
705		710		715
Tyr Tyr Gly Lys Ala Phe Ser Arg Phe Glu Tyr Leu Gly Glu Ile Ser				
	725		730	735
Val Val Cys Gln Leu Pro Phe Gly Ala Ile Ser Ala Tyr Val Asn His				
	740		745	750
Tyr Ser Ser Pro Arg Arg Glu Trp Asn Val Gly Leu Thr Leu Gly Trp				
	755		760	765
Gln Leu Phe Asn Tyr Arg Phe Ile Glu				
	770		775	

<210> 5443  
 <211> 74  
 <212> PRT  
 <213> B.fragilis

<400> 5443
Val Ala Met Tyr Gly Asn Gly Val Thr Ile Gly Thr Leu Lys Asn Thr
1 5 10 15
Leu Lys Thr Val Asn Leu Ser Ile Pro Asp Gly His Leu Met Val His
20 25 30
Leu Pro Phe Ser Ala Gly Ser Cys Glu Val Val Val Gly Val Val Leu
35 40 45
Gln Lys Ala Ala Glu Cys His Ile Leu Thr Met Thr Cys Gln Thr Ile
50 55 60
Val Met Asn Met Glu Val Leu Gly Leu Phe
65 70

<210> 5444  
 <211> 99  
 <212> PRT  
 <213> B.fragilis

<400> 5444
Pro Lys Asn Leu Lys Ser Ser Arg Thr Met Thr Ser Thr Asp Ser Ile
1 5 10 15
Leu Gln Leu Ile Ser Glu Ile His Ile Pro Gly Phe Phe Ile Thr Val
20 25 30
Asp Phe Leu Gln Ile Gly Lys Ala Ile Pro Gln Gly Ile Ser Gly Phe
35 40 45
Leu Lys Glu Lys Tyr Asp Lys Ile Ser His Gly Ala Ser Gly Arg Lys
50 55 60
Phe Ile Tyr Gln Lys Ser Gly Trp Arg Met Ala Phe Thr Phe Tyr Pro
65 70 75 80
Thr Asp Arg Val Val Asp Glu Lys Tyr Ala Met Lys Asn Lys Met Ile
85 90 95
Lys Lys Arg

<210> 5445  
 <211> 61  
 <212> PRT  
 <213> B.fragilis

<400> 5445  
 Leu Pro Val His Arg Ile Ile Tyr Leu Gln Lys Lys Phe Pro Lys Ser  
 1 5 10 15  
 Leu Gln Ile Gln Glu Lys Ala Val Ser Leu His Pro Leu Asn Lys Asn  
 20 25 30  
 Asn Gly Arg Val Ala Gln Leu Asn Arg Val Ala Asp Tyr Gly Ser Ala  
 35 40 45  
 Gly Tyr Arg Phe Glu Ser Cys Arg Asp His Phe Lys Val  
 50 55 60

<210> 5446  
 <211> 283  
 <212> PRT  
 <213> B.fragilis

<400> 5446  
 Lys Thr Asn His Met Thr Thr Arg Met Tyr Val Ile Asn Thr Leu Ser  
 1 5 10 15  
 Asn Met His Val Gly Ser Gly Glu Val Asn Tyr Gly Val Ile Asp Asn  
 20 25 30  
 Leu Ile Gln Arg Asp Ser Val Thr Asn Leu Pro Asn Ile Asn Ser Ser  
 35 40 45  
 Gly Leu Lys Gly Ala Ile Arg Glu Tyr Phe Lys Glu Asn Glu Asn Leu  
 50 55 60  
 Val Arg Glu Leu Phe Gly Ser Ala Pro Lys Asp Glu Lys Thr Leu Pro  
 65 70 75 80  
 Gly Lys Val Arg Phe Phe Glu Ala Asn Leu Leu Ser Met Pro Val Arg  
 85 90 95  
 Ser Asp Lys Val Pro Phe Leu Met Ala Thr Ser Asp Glu Val Leu Gln  
 100 105 110  
 Glu Leu Ile Thr Lys Met Lys Phe Asn Cys Glu Glu Ala Thr Gln  
 115 120 125  
 Tyr Ile Ser His Leu Ser Thr Leu Leu Asp Asn Ile Lys Thr Gln Ala  
 130 135 140  
 Gln Gly Thr Asp Phe Ala Tyr Val Phe Asp Pro Ser Leu Gln Gly Ala  
 145 150 155 160  
 Ile Ile Glu Glu Val Ser Ile Arg Ala Thr Cys Pro Ser His Ile Pro  
 165 170 175  
 Leu Gln Leu Ser Leu Lys Lys Leu Leu Gly Asp Arg Leu Val Ile Leu  
 180 185 190  
 Ser His Lys Tyr Phe Ser Ile Leu Ser Asp Asp Asn His Leu Pro Val  
 195 200 205  
 Leu Ser Arg Asn Asn Leu Glu Asn Gly Gln Ser Ala Asn Leu Trp Tyr  
 210 215 220  
 Glu Gln Val Leu Pro Arg Tyr Ser Arg Leu Tyr Phe Met Leu Met Asp  
 225 230 235 240  
 Gly Asn Ala Gln Ser Glu Tyr Leu Lys Lys Phe Arg Asp Thr Leu Cys  
 245 250 255  
 Thr Pro Ser Thr Ile Ile Gln Ile Gly Ala Asn Ala Ser Ile Gly Tyr  
 260 265 270  
 Gly Tyr Cys Gln Ile Ser Glu Leu Ser Pro Phe  
 275 280

<210> 5447  
 <211> 179  
 <212> PRT  
 <213> B.fragilis

<400> 5447

Asn	His	Cys	Phe	Leu	Pro	Leu	Phe	Phe	Cys	Cys	Lys	Asn	Pro	Ala	Met	
1				5					10					15		
Ser	Val	Trp	Met	Tyr	Ile	Ala	Val	Thr	Asp	Pro	Gly	Tyr	Gly	Asn	Glu	
			20					25					30			
Gln	Asn	Asp	Glu	Phe	Met	Lys	Asn	Met	Gly	Ile	Glu	Ala	Phe	Val	Lys	
		35					40					45				
Tyr	Asn	Tyr	Phe	His	Lys	Glu	Gln	Lys	Arg	Thr	Trp	Asn	Lys	Asp	Ala	
	50					55					60					
Phe	Thr	Ile	Gln	Asn	Leu	Lys	Lys	Ala	Ser	Ile	Ala	Gly	His	Leu	Pro	
65				70					75						80	
Ser	Ile	Phe	Ile	Leu	Asn	Arg	Tyr	Phe	Tyr	Lys	Arg	Ser	Ser	Ala	Leu	
				85					90					95		
Lys	His	Phe	Thr	Asn	Leu	Pro	Ile	Ala	Lys	Ser	Ile	Cys	Ser	Leu	Glu	
			100					105						110		
Cys	Val	Ala	Ile	Asn	Glu	Lys	Arg	Ile	Asn	Val	Ser	Phe	Gly	Glu	His	
		115					120						125			
Ala	Gly	Gly	Thr	Thr	Gly	Phe	Thr	Asn	Thr	Pro	Ser	Ser	Asn	Asn	Ile	
	130					135							140			
Leu	Val	Thr	Ile	Asn	Val	Phe	Ser	Ile	Ser	Arg	Thr	Tyr	Arg	Gly	Met	
145				150						155					160	
Ile	Gly	Val	Glu	Val	Cys	Pro	Ile	Ser	Lys	Pro	Ser	Ser	Arg	Lys	His	
				165					170					175		
Phe	Lys	Glu														

<210> 5448  
 <211> 265  
 <212> PRT  
 <213> B.fragilis

<400> 5448

Gly	Ser	Asn	Lys	Lys	Asp	Met	Gln	Lys	Gln	Ala	Lys	Glu	Ile	Lys	Lys	
1				5					10					15		
His	Leu	Phe	Leu	Leu	Gly	Gly	His	Asp	Leu	Glu	Met	Gln	Thr	Ile	Val	
			20					25					30			
Gln	Ile	Leu	Thr	Asp	Arg	Asn	Val	Ile	Phe	Lys	Asp	Arg	Tyr	Leu	Gln	
		35					40					45				
Trp	Asp	Asn	Ala	Leu	Leu	Ser	Gln	Tyr	Glu	Glu	Glu	Ile	Gln	Gln	Tyr	
	50					55					60					
Gly	Asn	Lys	Glu	Pro	Phe	Ile	Ile	Tyr	Gly	Val	Glu	Leu	Lys	Glu	Asp	
65				70						75					80	
Ile	Thr	Pro	Pro	Thr	Asn	Tyr	Ile	Arg	Ile	Asp	His	His	Asn	Glu	Tyr	
				85					90					95		
Ala	Thr	Tyr	Pro	Ser	Ala	Leu	Glu	Gln	Val	Ala	Ser	Ile	Leu	Asp	His	
			100					105					110			
Pro	Leu	Asn	Arg	Tyr	Gln	Thr	Leu	Val	Ala	Ala	Asn	Asp	Lys	Ala	Tyr	
		115					120						125			
Ile	Pro	Gly	Met	Leu	Glu	Ile	Gly	Ala	Ser	His	Glu	Glu	Ile	Asn	Leu	
	130					135						140				
Ile	Arg	Gln	Glu	Asp	Arg	Lys	Ala	Gln	Gly	Val	Ile	Glu	Asp	Asp	Glu	
145				150						155					160	
Lys	Leu	Ala	Gln	Glu	Ala	Ile	Thr	Asn	Gly	Thr	Glu	Lys	Ile	Gly	Ser	
				165					170					175		

Leu Tyr Val Val Phe Thr Thr Ala Asn Lys Phe Ser Pro Ile Cys Asp  
 180 185 190  
 Arg Leu Tyr Pro Tyr Glu Lys Leu Leu Ile Tyr Thr Pro Asn Glu Leu  
 195 200 205  
 Ile Tyr Tyr Gly Lys Gly Ile Asn Ser Ile Gln Lys Ile Leu Lys Arg  
 210 215 220  
 Tyr Thr Pro Ile Ser Asn Ile Phe Trp Gly Gly Gly Ile Asn Gly Phe  
 225 230 235 240  
 Ile Gly Thr Val Arg Asn Arg Leu Thr Thr Asn Glu Ile Leu Asn Ile  
 245 250 255  
 Val Glu Gln Ile Lys Leu Leu Glu Leu  
 260 265

<210> 5449

<211> 248

<212> PRT

<213> B.fragilis

<400> 5449

Lys Arg Asn Lys Met Lys Thr Ile Phe Arg Met Leu Ser Val Leu Leu  
 1 5 10 15  
 Leu Thr Thr Gly Leu Leu Ser Ser Cys Ile Gln Ile Gly Glu Gly Ile  
 20 25 30  
 Gln Pro Ser Lys Lys Leu Ile Thr Arg Asp Tyr Lys Val Lys Glu Phe  
 35 40 45  
 Asn Lys Ile Asp Ala Gly Thr Val Gly Asn Ile Tyr Tyr Thr Gln Ser  
 50 55 60  
 Thr Asp Gly Lys Thr Asp Leu Gln Ile Tyr Gly Pro Asp Asn Ile Val  
 65 70 75 80  
 Ala Leu Ile Gln Val Ala Val Lys Asp Asn Thr Leu Phe Leu Ser Ile  
 85 90 95  
 Asp Lys Ser Lys Lys Val Arg Asn Phe Lys Lys Met Lys Ile Thr Ile  
 100 105 110  
 Thr Ser Pro Thr Leu Asn Gly Ile Ser Phe Lys Gly Val Gly Asp Val  
 115 120 125  
 His Ile Glu Asn Gly Leu Thr Thr Asp Asn Leu Asp Ile Glu Ser Lys  
 130 135 140  
 Gly Val Gly Asn Val Asp Ile Gln Ser Leu Thr Cys Gln Lys Leu Asn  
 145 150 155 160  
 Val Gln Ser Met Gly Val Gly Asp Val Lys Leu Glu Gly Thr Ala Gln  
 165 170 175  
 Ile Ala Ala Leu His Ser Lys Gly Val Gly Asn Ile Glu Ala Gly Asn  
 180 185 190  
 Leu Arg Ala Asn Ala Val Glu Ala Ser Ser Gln Gly Val Gly Asp Ile  
 195 200 205  
 Thr Cys Asn Ala Thr Glu Ser Ile Asp Ala Ala Val Arg Gly Val Gly  
 210 215 220  
 Ser Ile Lys Tyr Lys Gly Ser Pro Thr Ile Lys Ser Leu Ser Lys Lys  
 225 230 235 240  
 Gly Val Gly Thr Ile Lys Asn Ile  
 245

<210> 5450

<211> 784

<212> PRT

<213> B.fragilis

<400> 5450

Lys Gln Asn Lys Lys Gly Ser Asn Asn Met Ile Arg His Tyr Leu Lys



1	5	10	15
Ile Ala Cys Arg	Asn Leu Leu Lys Tyr	Lys Thr Gln Ser	Ile Ile Ser
20	25	30	
Ile Leu Gly Leu	Ala Ile Gly Phe	Thr Cys Phe Ala	Leu Ala Val Leu
35	40	45	
Trp Ile Arg Tyr	Glu Met Thr Tyr	Asp Thr Phe His	Glu Gly Phe Asp
50	55	60	
Arg Ile His Leu	Val Tyr Gln Lys	Ser Ala Leu Ser	Asp Thr Gly Val
65	70	75	80
Thr Thr Thr Ile	Pro Tyr Pro Val	Ser Thr Ser Leu	Glu Lys Gln Phe
85	90	95	
Pro Glu Val Glu	Asp Ala Cys Gly	Phe Leu Phe Tyr	Glu Gln Glu Val
100	105	110	
Thr Val Asp Asp	Gly Ala Ile Arg	Gln Leu Tyr Glu	Ile Asn Ala Asp
115	120	125	
Ser Cys Phe Met	His Met Phe Gly	Ile Gln Val Leu	Ser Gly Ser Leu
130	135	140	
Asp Phe Leu Glu	Ser Glu Glu Arg	Ile Ala Leu Thr	Glu His Ala Ala
145	150	155	160
Lys Glu Leu Phe	Gly Thr Glu Asn	Pro Ile Gly Lys	Glu Ile Lys Leu
165	170	175	
Tyr Gly Ala Pro	Lys Thr Val Cys	Ala Ile Val Asn	Gly Trp Asn Arg
180	185	190	
His Thr Asn Leu	Pro Phe Ser Ile	Leu Thr Gly Gly	Ile Arg Gln Trp
195	200	205	
His Asn Ala Trp	Tyr His Gly Gly	Phe His Val Phe	Ile Lys Leu His
210	215	220	
Lys Glu Val Asn	Ala Glu Thr Phe	Gln Lys Lys Leu	Glu Gln Thr Lys
225	230	235	240
Leu Glu Ala Asp	Ser Lys Gly Gly	Ile Gln Asn Leu	Met Val Met Pro
245	250	255	
Ile Ser Lys Cys	His Tyr Thr Val	Leu Ala Asp Gln	Asn Ala Ile Gln
260	265	270	
Phe Ser Tyr Ile	Leu Phe Phe Ser	Ile Val Gly Gly	Leu Val Ile Leu
275	280	285	
Cys Ser Leu Ile	Asn Tyr Leu Ser	Leu Phe Val Ser	Arg Leu Arg Met
290	295	300	
Arg Ser Arg Glu	Leu Ala Leu Arg	Lys Val Cys Gly	Ser Ser Asp Leu
305	310	315	320
His Leu Phe Thr	Leu Leu Val Thr	Glu Tyr Leu Leu	Ile Leu Leu Ala
325	330	335	
Ala Gly Leu Met	Gly Met Ala Leu	Ile Glu Leu Val	Leu Ser Pro Phe
340	345	350	
Lys Glu Leu Ser	Gly Val Lys Glu	Gly Asp Ile Tyr	Trp Glu Ser Phe
355	360	365	
Leu Tyr Phe Ala	Leu Val Ile Gly	Cys Ser Leu Ala	Thr Phe Leu Pro
370	375	380	
Val Thr Phe Tyr	Phe Asn Lys Arg	Thr Leu Gln Ser	Asn Ile Gln Gln
385	390	395	400
Lys Thr Val Asn	Arg Tyr Gly Tyr	Leu Gly Arg Lys	Ile Ser Ile Val
405	410	415	
Phe Gln Leu Ser	Ile Ser Ile Cys	Phe Ile Phe Cys	Ile Ser Val Ile
420	425	430	
Met Lys Gln Leu	Tyr Tyr Leu Ser	Thr Thr Asp Ile	Gly Ile Glu Arg
435	440	445	
Lys Asn Ile Ala	Thr Leu Ser Met	Tyr Pro Gln Asn	Asn Leu Leu Pro
450	455	460	
Ala Ala Asp Lys	Ile Glu Gln Phe	Pro Tyr Val Thr	Gln Val Leu Lys
465	470	475	480

Gly	His	Phe	Ser	Leu	Leu	Pro	Lys	Thr	Ala	Ser	Met	Ala	Met	His	Phe
				485					490					495	
Lys	Asp	Trp	Asp	Gly	Lys	Gln	Pro	Gly	Asp	Ala	Glu	Ile	Asp	Met	Glu
			500					505					510		
Val	Leu	Met	Glu	Ser	Glu	Glu	Leu	Ala	Gln	Phe	Tyr	Gly	Ile	Arg	Leu
		515					520					525			
Leu	Lys	Gly	Lys	Met	Leu	Lys	Glu	Gly	Glu	Arg	Asp	Ala	Gly	Thr	Ile
	530					535					540				
Val	Ile	Asn	Glu	Thr	Ala	Ala	Lys	Ala	Leu	Gly	Trp	Asn	Asp	Pro	Ile
545					550					555					560
Gly	Lys	Lys	Leu	Ile	Arg	Pro	Asn	Gly	Thr	Gly	Thr	Thr	Val	Ile	Gly
			565					570						575	
Leu	Val	Lys	Asp	Phe	His	Thr	Thr	Ser	Pro	Thr	Thr	Pro	Ile	Lys	Pro
			580					585					590		
Ile	Ala	Phe	Ile	Ala	Lys	Gly	Phe	Ser	Gly	Phe	Asp	Leu	Gly	Lys	Gly
		595				600					605				
Asp	Val	Leu	Ile	Lys	Tyr	Arg	Glu	Gly	Glu	Trp	Pro	Lys	Leu	Lys	Lys
	610					615					620				
Asp	Ile	Glu	Gln	Leu	Cys	Gln	Lys	Glu	Tyr	Pro	Glu	Asn	Lys	Ile	Arg
625					630					635					640
Leu	Ser	Asn	Met	Glu	Glu	Thr	Tyr	Asp	Asn	Tyr	Leu	Lys	Ser	Glu	Gln
			645					650						655	
Thr	Leu	Leu	Lys	Leu	Leu	Ser	Cys	Val	Ala	Val	Val	Cys	Ile	Leu	Ile
			660					665					670		
Ala	Val	Phe	Gly	Val	Phe	Ser	Leu	Val	Thr	Leu	Ala	Cys	Glu	Gln	Arg
		675					680					685			
Arg	Lys	Glu	Ile	Ala	Ile	Arg	Lys	Val	Asn	Gly	Ala	Thr	Leu	Gly	Asn
	690					695					700				
Ile	Leu	Ser	Ile	Phe	Ile	Lys	Glu	Tyr	Leu	Ile	Leu	Leu	Leu	Cys	Ala
705					710					715					720
Ser	Phe	Leu	Ala	Phe	Pro	Val	Ser	Tyr	Met	Ile	Met	Lys	Ala	Trp	Leu
			725					730					735		
Glu	Asn	Tyr	Val	Glu	Gln	Ile	Ser	Ile	Gly	Val	Ser	Met	Tyr	Val	Thr
		740						745				750			
Ile	Phe	Thr	Gly	Ile	Gly	Ile	Ile	Ile	Thr	Ala	Cys	Ile	Gly	Trp	Arg
	755					760						765			
Val	Trp	Lys	Ala	Ala	Arg	Glu	Asn	Pro	Ala	Glu	Val	Val	Lys	Thr	Glu
	770					775					780				

&lt;210&gt; 5451

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5451

Gln	Leu	Val	Lys	Gly	Asp	Asp	Phe	Val	Asn	Thr	Ile	Tyr	Lys	Phe	Gly
1				5					10					15	
Cys	Lys	Arg	Phe	Ile	Gln	Ser	Leu	Leu	Asn	His	Ala	Ala	Arg	Glu	Phe
			20					25					30		
Phe	Ile	Val	Lys	Thr	Ala	Leu	Ser	Gly	Lys	Thr	Asp	Ser	Thr	Pro	Lys
	35						40					45			
Leu	Phe	Gln	Leu	Ala	Gly	Ser	Asp	Ile	Arg	Cys	His	Asp	Asn	Asn	Ser
	50					55					60				
Ile	Leu	Glu	Val	Asn	His	Ser	Ala	Ile	Thr	Val	Ser	Gln	Pro	Thr	Phe
65					70					75					80
Val	His	His	Leu	Glu	Lys	Gln	Ile	Glu	His	Ile	Gly	Met	Arg	Leu	Phe
				85					90					95	
Tyr	Phe	Val	Lys	Gln	Tyr	Asp	Arg	Ile	Gly	Phe	Thr	Ala	Tyr	Phe	Leu
			100					105					110		

Cys Gln Leu Ser Ala Phe Leu Val Ser Tyr Val Ser Arg Arg Arg Ser  
 115 120 125  
 Asn Gln Ala  
 130

<210> 5452  
 <211> 383  
 <212> PRT  
 <213> B.fragilis

<400> 5452  
 Ile Ile Ile Lys Met Asn Arg His Tyr Leu Ile Thr Leu Thr Pro Met  
 1 5 10 15  
 Asp Trp Phe Phe Phe Gly Gly Glu Arg Thr Leu Asp Asp Gly Lys Ser  
 20 25 30  
 Ala Asp Tyr Ile Ser His Ser Asn Lys Phe Pro Gln Gln Ser Ala Leu  
 35 40 45  
 Leu Gly Met Ile Arg Tyr Gln Leu Leu Lys Gln His Asn Leu Leu Ser  
 50 55 60  
 Gln Phe Pro Tyr Thr Glu Asn Lys Pro Thr Glu Lys Glu Ile Met Lys  
 65 70 75 80  
 Ala Leu Ile Gly Glu Gln Ser Phe Arg Met Thr Glu Arg Lys Ala Lys  
 85 90 95  
 Ser Leu Gly Leu Gly Val Ile Lys Gln Ile Ser Pro Leu Met Leu Ile  
 100 105 110  
 Glu Cys Lys Asp Asp Thr Ser Ser Arg Ser Ile Tyr Phe Pro Leu Pro  
 115 120 125  
 Leu Asp Asp Gly Tyr Lys Val Ser Phe Asn Glu Thr Ser Asn Glu Asp  
 130 135 140  
 Lys Val Phe Tyr Asn Gly Ile Glu Cys Pro Ile Pro Asn Val Tyr Pro  
 145 150 155 160  
 Ala Ser Glu Glu Gln Asp Ser Gly Asn Gln Lys Arg Lys Phe Phe Asp  
 165 170 175  
 His Lys Thr Tyr Asn Asn Tyr Leu Phe Trp Cys Thr Gln Gly Asn Asn  
 180 185 190  
 Gln Ile Lys Lys Leu Leu Ser Asp Glu Ile Trp Ile Ser Lys Met Gln  
 195 200 205  
 Ile Gly Ile Thr Lys His Val Glu Glu Gly Glu Asp Asn Asp Lys Ser  
 210 215 220  
 Phe Tyr Lys Gln Glu Phe Leu Gln Leu Lys Lys Ser Phe Ile Tyr Ala  
 225 230 235 240  
 Phe Tyr Ile Thr Leu Ser Gly Glu Ser Glu Leu Ser Ser Asp Ile Ile  
 245 250 255  
 Gln Leu Gly Gly Gln Arg Ser Val Phe Arg Met Glu Val Glu Ser Ile  
 260 265 270  
 Glu Glu Asn Ser Asp Ile Gln Glu Lys Tyr Gln Thr Ala Ala Gln Phe  
 275 280 285  
 Leu Thr Gln Ser Asp Arg Leu Leu Ile Leu Ser Pro Thr Tyr Val Asp  
 290 295 300  
 Asn Leu Lys Glu Leu Ser Ala Leu Cys Asn Phe Met Trp Ser Asp Ser  
 305 310 315 320  
 Ile Val Phe Arg Asn Ile Gln Thr Thr Asn Ala Ser Asn Phe Tyr Gly  
 325 330 335  
 Lys Pro Ile Lys Ser Ser Ser Lys Tyr His Phe Leu Lys Pro Gly Ser  
 340 345 350  
 Val Leu Tyr Phe Lys Gln Gly Lys Arg Lys Glu Val Glu Lys Leu Leu  
 355 360 365  
 Met Asp Tyr Thr Tyr Leu Arg Leu Ser Gly Tyr Asn Ile Tyr Ile  
 370 375 380

<210> 5453  
 <211> 60  
 <212> PRT  
 <213> B.fragilis

<400> 5453  
 Gln Val Pro Lys Ala Ile Ser Met Ile His Leu Ala Ser Met Ala Lys  
 1 5 10 15  
 Phe Met Gln Lys Asp Val Ile Tyr Gln Met Phe Trp Gln Gln Tyr Lys  
 20 25 30  
 Glu Ile Arg Glu Ile Tyr Leu Phe Thr Arg Gly Thr Ala Ser Pro Ser  
 35 40 45  
 Pro Thr Ala Arg Ile Tyr Leu His Ala Leu Val Gly  
 50 55 60

<210> 5454  
 <211> 98  
 <212> PRT  
 <213> B.fragilis

<400> 5454  
 Gly Leu Thr Asn Gly Arg Val Ala Gln Leu Asn Arg Val Ala Asp Tyr  
 1 5 10 15  
 Gly Ser Ala Gly Tyr Arg Phe Glu Ser Cys Arg Gly His Ser Lys Lys  
 20 25 30  
 Ile Thr Ile Asn Gly Arg Val Ala Gln Leu Asn Arg Val Ala Asp Tyr  
 35 40 45  
 Gly Ser Ala Gly Tyr Arg Phe Glu Ser Cys Arg Asp His Lys Asn Leu  
 50 55 60  
 His Asn Gln Ile Met Glu Val Phe Cys Phe Pro Cys Ile Ile Ser Phe  
 65 70 75 80  
 Ile Gly Ser Tyr Leu Asn Ser Glu Gly Phe Leu Phe Leu Ile Gly Ser  
 85 90 95  
 Leu Tyr

<210> 5455  
 <211> 94  
 <212> PRT  
 <213> B.fragilis

<400> 5455  
 Ile Leu Lys Lys Ile Phe Met Asn Tyr Lys Lys Lys Ile Ile Cys Leu  
 1 5 10 15  
 Leu Val Leu Phe Thr Ile Val Val Val Asn Val Leu Asn Val Val Val  
 20 25 30  
 Lys Ser Asp Asp Ala Glu Thr Leu Thr Leu Ser Gly Ile Glu Ala Val  
 35 40 45  
 Ala Ala Thr Tyr Glu Asn Ser Pro Gly Asn Tyr Thr Gly Ala His Asn  
 50 55 60  
 Gln Tyr Cys Thr Ser Pro Lys Asn Ala Thr Gly Cys Val Ser Asp Pro  
 65 70 75 80  
 Asp Pro Thr Arg Thr Cys Ser Tyr Ser Ile Phe Cys Lys Lys  
 85 90

<210> 5456  
 <211> 476  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5456

Leu	Asn	Arg	Lys	Lys	Asn	Ile	Met	Asn	Gln	Leu	Thr	Ala	Ile	Leu	Lys
1				5					10					15	
Gln	His	Thr	Pro	Met	Ile	His	Phe	Gln	His	Asn	Glu	Ser	Gly	Ala	Thr
			20					25					30		
Leu	Arg	Ala	Ser	Glu	Val	Lys	Pro	Leu	Leu	Asp	Lys	Phe	Ile	Leu	Thr
		35					40					45			
Lys	Leu	Gly	Asn	Gly	Asp	Ile	Arg	Glu	Gly	Arg	Leu	Tyr	Ala	Lys	Lys
	50				55						60				
Asn	Asn	Trp	Leu	Ile	Asp	Asn	Glu	Lys	Asn	Tyr	Ala	Leu	Asn	Tyr	Lys
65					70					75					80
Leu	Ser	Ile	Ser	Leu	Gln	Lys	Lys	Ser	Arg	Leu	Glu	Tyr	Leu	Ile	Thr
			85						90					95	
Ser	Ser	Thr	Phe	Pro	Leu	Pro	Thr	Glu	Arg	Pro	Ser	Asn	Phe	Phe	Thr
			100					105					110		
Ile	Gln	Asn	Ser	Pro	Tyr	Phe	Ala	Gln	Glu	Lys	Cys	Val	Gly	Ile	Asn
	115						120					125			
Thr	Asn	Ser	Thr	Ile	Ile	Leu	Lys	Lys	Ser	Asn	Ser	Asp	Pro	Arg	Lys
	130					135					140				
Lys	Glu	Ala	Glu	Phe	Lys	Glu	Lys	Asn	Trp	Ser	Gln	Ile	Asp	Lys	Lys
145					150					155					160
Gly	Leu	Glu	Trp	Gln	Asp	Phe	Thr	Ile	Lys	Ile	Phe	Ser	Leu	Lys	Gly
			165					170						175	
Asp	Leu	Ile	Asn	Lys	Ile	Gln	Thr	Tyr	Leu	Pro	Ala	Phe	Phe	Ile	Cys
			180					185					190		
His	Asn	Phe	Gly	Thr	Arg	Asn	Asn	Lys	Gly	Phe	Gly	Ser	Phe	Thr	Val
	195						200					205			
Glu	Tyr	Ile	Asn	Asn	Gln	Lys	Asn	Ile	Cys	Asn	Val	Glu	Asp	Thr	Leu
	210					215					220				
Lys	Glu	Asn	Phe	Ala	Phe	Val	Tyr	Lys	Lys	Lys	Ile	Ala	Leu	Ser	Cys
225					230					235					240
Gln	Ser	Thr	Leu	Asp	Phe	Ile	Tyr	Ile	Tyr	Asn	Gln	Ile	Phe	Ser	Thr
			245						250					255	
Ile	Lys	Lys	Asp	Tyr	Gln	Ile	Leu	Lys	Ser	Gly	Tyr	Asn	Phe	Arg	Asn
			260					265					270		
Glu	Tyr	Ile	Lys	Ser	Leu	Leu	Phe	Cys	Tyr	Phe	Val	Ser	Lys	Tyr	Pro
	275						280					285			
Asn	Tyr	Arg	Trp	Glu	Lys	Arg	Lys	Met	Lys	Gln	Leu	Ile	Lys	Ala	Arg
	290					295					300				
Gly	Tyr	Glu	Leu	Lys	Gly	Asp	His	Ser	Pro	Ile	Ser	Gly	Ile	Arg	Glu
305					310						315				320
Asn	Asp	Asn	Ser	Trp	Asn	Asp	Pro	Asn	Pro	Asn	Gly	Tyr	Asn	Tyr	Ala
			325						330					335	
Tyr	Ile	Arg	Ala	Ile	Leu	Gly	Leu	Ala	Glu	Gln	Tyr	Glu	Phe	Gln	Leu
			340					345					350		
Glu	Thr	Pro	Tyr	Gln	Lys	Ala	Ile	Val	Lys	Ile	Lys	Ser	Ala	Asn	Asn
		355					360					365			
Cys	Ile	Ser	Arg	Tyr	Lys	Ser	Pro	Leu	Leu	Phe	Lys	Ile	Ile	Asn	Asn
	370					375					380				
Ser	Ile	Tyr	Leu	Val	Gly	Asn	Glu	Ile	Asn	Thr	Glu	Ile	Leu	Asn	Lys
385					390					395					400
Pro	Phe	Gln	Tyr	Asn	Tyr	Ile	Glu	Gln	Thr	Lys	Asn	Lys	Asn	Met	Arg
			405						410					415	
Thr	Gly	Lys	Ser	Glu	Ile	Thr	Glu	Arg	Thr	Met	His	Ile	Asn	Glu	Ile
			420					425					430		
Glu	Met	Asn	Tyr	Asn	Asn	Arg	Ile	Asn	Tyr	His	Tyr	Thr	Pro	Thr	Ser
		435					440					445			

Phe Ser Leu Ile Asp Phe Met Gln Tyr Ala Met Ser Tyr Lys Lys Asn  
 450 455 460  
 Gly Lys Asn Ile Leu Asn Tyr Ile Pro Leu Lys Gln  
 465 470 475

<210> 5457  
 <211> 295  
 <212> PRT  
 <213> B.fragilis

<400> 5457  
 Ser Met Arg Lys Ile Lys Val Gly Ile Ile Gln Gln Ala Asn Thr Ser  
 1 5 10 15  
 Asp Ile Arg Ile Asn Leu Met Asn Leu Ala Lys Ser Ile Glu Ala Cys  
 20 25 30  
 Ala Ala Asn Gly Ala His Leu Val Val Leu Gln Glu Leu His Asn Ser  
 35 40 45  
 Leu Tyr Phe Cys Gln Thr Glu Asn Thr Asp Leu Phe Glu Leu Ala Glu  
 50 55 60  
 Pro Ile Pro Gly Pro Ser Thr Gly Phe Tyr Ser Glu Leu Ala Ala Ala  
 65 70 75 80  
 Asn Arg Ile Val Leu Val Thr Ser Leu Phe Glu Lys Arg Ala Pro Gly  
 85 90 95  
 Leu Tyr His Asn Thr Ala Val Val Phe Asp Arg Asp Gly Ser Ile Ala  
 100 105 110  
 Gly Lys Tyr Arg Lys Met His Ile Pro Asp Asp Pro Ala Tyr Tyr Glu  
 115 120 125  
 Lys Phe Tyr Phe Thr Pro Gly Asp Ile Gly Phe Glu Pro Ile Gln Thr  
 130 135 140  
 Ser Leu Gly Lys Leu Gly Val Leu Val Cys Trp Asp Gln Trp Tyr Pro  
 145 150 155 160  
 Glu Ala Ala Arg Leu Met Ala Leu Lys Gly Ala Glu Ile Leu Ile Tyr  
 165 170 175  
 Pro Thr Ala Ile Gly Trp Glu Ser Thr Asp Thr Asp Asp Glu Lys Lys  
 180 185 190  
 Arg Gln Leu Asn Ala Trp Ile Ile Ser Gln Arg Ala His Ala Val Ala  
 195 200 205  
 Asn Gly Leu Pro Val Ile Ser Val Asn Arg Val Gly His Glu Pro Asp  
 210 215 220  
 Pro Ser Gly Gln Thr Asn Gly Ile Leu Phe Trp Gly Asn Ser Phe Val  
 225 230 235 240  
 Ala Gly Pro Gln Gly Glu Tyr Leu Ala Gln Ala Gly Asn Asp Arg Ser  
 245 250 255  
 Glu Asn Met Ile Val Glu Val Asp Leu Glu Arg Ser Glu Asn Val Arg  
 260 265 270  
 Arg Trp Trp Pro Phe Leu Arg Asp Arg Arg Ile Asp Glu Tyr Gly Asn  
 275 280 285  
 Leu Thr Lys Arg Phe Ile Asp  
 290 295

<210> 5458  
 <211> 612  
 <212> PRT  
 <213> B.fragilis

<400> 5458  
 Thr Phe Gly Asn Asn Thr Glu Ser Glu Leu Ile Cys Thr Phe Ala Asp  
 1 5 10 15  
 Tyr Phe Asn Lys Asn Ile Asn Asn Ile Leu Asn Met Phe Arg Thr His



Asn Ala Tyr Asp Met Val Ile Asn Gly Val Glu Val Gly Gly Gly Ser  
 500 505 510  
 Ile Arg Ile His Asp Ser Gln Leu Gln Asn Lys Met Phe Glu Leu Leu  
 515 520 525  
 Gly Phe Thr Pro Glu Arg Ala Gln Glu Gln Phe Gly Phe Leu Met Asn  
 530 535 540  
 Ala Phe Lys Phe Gly Ala Pro Pro His Gly Gly Leu Ala Tyr Gly Leu  
 545 550 555 560  
 Asp Arg Trp Val Ser Leu Phe Ala Gly Leu Asp Ser Ile Arg Asp Cys  
 565 570 575  
 Ile Ala Phe Pro Lys Asn Asn Ser Gly Arg Asp Val Met Leu Asp Ala  
 580 585 590  
 Pro Ala Ala Leu Asp Pro Ser Gln Leu Glu Glu Leu Asn Leu Ile Val  
 595 600 605  
 Asp Ile Lys Glu  
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<210> 5459

<211> 415

<212> PRT

<213> B.fragilis

<400> 5459

Tyr Ser Met Lys Lys Tyr Pro Lys Ile Gly Ile Arg Pro Thr Ile Asp  
 1 5 10 15  
 Gly Arg Gln Gly Gly Val Arg Glu Ser Leu Glu Glu Lys Thr Met Asn  
 20 25 30  
 Leu Ala Lys Ala Val Ala Glu Leu Ile Thr Ser Asn Leu Lys Asn Gly  
 35 40 45  
 Asp Gly Thr Pro Val Glu Cys Val Ile Ala Asp Gly Thr Ile Gly Arg  
 50 55 60  
 Val Ala Glu Ser Ala Ala Cys Ala Glu Lys Phe Glu Arg Glu Gly Val  
 65 70 75 80  
 Gly Ala Thr Ile Thr Val Thr Ser Cys Trp Cys Tyr Gly Ala Glu Thr  
 85 90 95  
 Met Asp Met Asn Pro Tyr Tyr Pro Lys Ala Val Trp Gly Phe Asn Gly  
 100 105 110  
 Thr Glu Arg Pro Gly Ala Val Tyr Leu Ala Ala Val Leu Ala Gly His  
 115 120 125  
 Ala Gln Lys Gly Leu Pro Ala Phe Gly Ile Tyr Gly Arg Asp Val Gln  
 130 135 140  
 Asp Leu Asn Asp Asn Ser Ile Pro Ala Asp Val Ala Glu Lys Ile Leu  
 145 150 155 160  
 Arg Phe Ala Arg Ala Ala Gln Ala Val Ala Thr Met Arg Gly Lys Ser  
 165 170 175  
 Tyr Leu Ser Met Gly Ser Val Ser Met Gly Ile Ala Gly Ser Ile Val  
 180 185 190  
 Asn Pro Asp Phe Phe Gln Glu Tyr Leu Gly Met Arg Asn Glu Ser Ile  
 195 200 205  
 Asp Leu Thr Glu Ile Ile Arg Arg Met Ala Glu Gly Ile Tyr Asp Lys  
 210 215 220  
 Glu Glu Tyr Ala Lys Ala Met Ala Trp Thr Glu Lys Tyr Cys Lys Lys  
 225 230 235 240  
 Asn Glu Gly Asn Asp Phe Asn Ile Pro Glu Lys Thr Lys Thr Arg Ala  
 245 250 255  
 Gln Lys Asp Glu Asp Trp Glu Phe Ile Val Lys Met Thr Ile Ile Met  
 260 265 270  
 Arg Asp Leu Met Gln Gly Asn Pro Lys Leu Lys Glu Leu Gly Phe Lys  
 275 280 285

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Glu Glu Ala Leu Gly His Asn Ala Ile Ala Ala Gly Phe Gln Gly Gln  
 290 295 300  
 Arg Gln Trp Thr Asp Phe Tyr Pro Asn Gly Asp Phe Ser Glu Ala Leu  
 305 310 315 320  
 Leu Asn Thr Ser Phe Asp Trp Asn Gly Ile Arg Glu Ala Phe Val Val  
 325 330 335  
 Ala Thr Glu Asn Asp Ala Cys Asn Gly Val Ala Met Leu Phe Gly His  
 340 345 350  
 Leu Leu Thr Asn Arg Ala Gln Ile Phe Ser Asp Val Arg Thr Tyr Trp  
 355 360 365  
 Ser Pro Glu Ala Val Lys Arg Val Thr Gly Lys Glu Leu Thr Gly Met  
 370 375 380  
 Ala Ala Asn Gly Ile Ile His Leu Ile Asn Ser Gly Ala Thr Thr Leu  
 385 390 395 400  
 Asp Gly Thr Gly Gln Gln Thr Asn Ala Asn Gly Leu Asn His Gly  
 405 410 415

<210> 5460

<211> 136

<212> PRT

<213> B.fragilis

<400> 5460

Leu Lys Thr Asn Lys Ser Glu Lys Met Asn Tyr Met Ile Gln His Tyr  
 1 5 10 15  
 Leu Lys Thr Ala Ile Arg Asn Leu Leu Lys Tyr Lys Thr His Ser Ile  
 20 25 30  
 Ile Ser Ala Ile Cys Leu Ser Val Gly Met Thr Cys Phe Ser Ile Ile  
 35 40 45  
 His Phe Phe Ile Asn Glu Ile Asp Gly Ala Ser Arg Asn Met Pro Asn  
 50 55 60  
 Phe Glu Gln Arg Ile Ser Ile Arg Met Ile Asn Ser Asn His Glu Val  
 65 70 75 80  
 Gly Gly Trp Gly Trp Ser Leu Asn Ser Ser Glu Ile Arg Thr Leu Thr  
 85 90 95  
 Glu His Pro Ile Pro Gly Ile Lys Gln Ile Cys Phe His Ser Phe Gln  
 100 105 110  
 Arg Glu Asp Glu Val Val Phe Ile Asn Arg Glu Gln Gly Arg Lys Ala  
 115 120 125  
 Leu His His Leu Ile Tyr Gly Tyr  
 130 135

<210> 5461

<211> 164

<212> PRT

<213> B.fragilis

<400> 5461

Lys Lys Lys Lys Thr Met Asn Trp Lys Leu Val Glu Cys Glu Ile Ala  
 1 5 10 15  
 Leu Ile Val Ser Leu Thr Val Ile Glu Cys Val Asn Met Gly Gln Asn  
 20 25 30  
 Ser Pro Lys Asp Ile Thr Cys Leu Thr Val Phe Phe Cys Ile Met Ile  
 35 40 45  
 Val Leu Leu Pro Leu Ile Gly Val Leu Gln Gln Trp His Leu Ser Cys  
 50 55 60  
 Phe Gln Asn Arg Gln Lys Glu Lys Glu Tyr Gln Ala Lys Gln Glu Thr  
 65 70 75 80  
 Asp Glu Lys Met Lys Thr Trp Leu Leu Ala Arg Glu Ala Ile Ile Lys

				85						90					95				
Asp	Lys	Glu	Lys	Glu	Glu	Leu	Thr	Asn	Lys	Val	Asn	Gly	Leu	Gln	Gln				
			100						105				110						
Lys	Cys	Asp	Ser	Leu	Ile	Glu	Asn	Gln	Glu	Asn	Glu	Leu	Lys	Lys	Phe				
		115					120					125							
Tyr	Leu	Ser	Ile	Leu	Ser	Ile	Ile	Gly	Thr	Lys	Asp	Asp	Leu	Lys	Ser				
	130					135					140								
Ile	Glu	Glu	Asn	Phe	Lys	Lys	Met	Lys	Asp	Phe	Phe	Glu	Glu	Tyr	Lys				
145					150					155					160				
Lys	Ile	Thr	Lys																

<210> 5462  
 <211> 61  
 <212> PRT  
 <213> B.fragilis

Gly	Ala	Gly	Lys	Lys	Ser	Leu	Thr	Ser	Ser	His	Ile	Trp	Ile	Leu	Ile				
1			5						10					15					
Leu	Ile	Ser	Phe	His	Ile	Ile	Met	His	Pro	Ser	Tyr	Met	Ala	Asn	Ala				
		20						25					30						
Phe	Pro	Thr	Thr	Pro	Lys	Glu	Val	Leu	Ser	Glu	Ser	Cys	Ala	Arg					
		35					40				45								
Lys	Val	Tyr	Gly	Lys	Glu	Gln	Pro	Gly	Arg	Ala	His	Tyr							
	50					55					60								

<210> 5463  
 <211> 105  
 <212> PRT  
 <213> B.fragilis

Arg	Val	Asn	Leu	Gln	Pro	Lys	Cys	Ser	Phe	Pro	Val	Arg	Leu	Ser	Glu				
1			5						10					15					
Lys	Ile	Ser	Pro	Asn	His	Leu	Val	Arg	Val	Val	Ser	Tyr	Ile	Val	Asp				
		20						25					30						
Ala	Leu	Asp	Ile	Ser	Tyr	Leu	Leu	Ser	Ala	Tyr	Asn	Gly	Gly	Gly	Thr				
		35					40					45							
Asn	Ser	Tyr	His	Pro	Arg	Met	Ile	Leu	Lys	Val	Leu	Phe	Tyr	Ala	Tyr				
	50					55					60								
Leu	Asn	Asn	Ile	Tyr	Ser	Cys	Arg	Lys	Thr	Gln	Lys	Ala	Leu	Gln	Lys				
65					70					75				80					
Asn	Ile	His	Ile	Met	Trp	Leu	Ser	Gly	Asn	Ser	Thr	Ser	Asn	Phe	Arg				
			85						90					95					
Thr	Ile	Asn	Asp	Phe	Arg	Gly	Lys	Val											
		100						105											

<210> 5464  
 <211> 61  
 <212> PRT  
 <213> B.fragilis

Phe	Lys	Ser	Leu	Tyr	Phe	Ile	Tyr	Thr	Leu	Gln	Gln	Lys	Met	Tyr	Arg				
1			5						10					15					
Val	Gln	Lys	Glu	Arg	Leu	Phe	Leu	Ile	Leu	Ala	Leu	Met	Val	Gly	Ile				
		20						25					30						
Arg	Lys	Ile	Asp	Gln	Ser	Ser	Asp	Pro	Lys	Glu	Trp	Val	Val	Lys	Ser				

35	40	45
Arg Lys Glu Phe Lys Met	Phe Phe Ser Ile Pro	Ile Phe
50	55	60

<210> 5465  
 <211> 255  
 <212> PRT  
 <213> B.fragilis

<400> 5465  
 Cys Asn Glu Asp Ser Gln Lys Tyr Arg Val Phe Pro Trp Arg Ala Arg  
 1 5 10 15  
 Thr Ala Tyr Cys Cys Cys Leu Thr His Pro Leu Ser Val Asp Thr Leu  
 20 25 30  
 Asn Ile Leu Trp Arg Thr Met Leu Asn Glu Arg Gln Lys Phe Pro Ile  
 35 40 45  
 Arg Thr Gly Leu Lys Leu Thr Val Ser Asp Asn Asn Gly Val Val Arg  
 50 55 60  
 Ser Ser Phe Ser Pro Asp Ser Leu Ser Cys Leu Ser Tyr Ser Ser Ile  
 65 70 75 80  
 Phe Thr Tyr Tyr Val Gly Tyr Arg Cys Glu Ile Glu Ile Leu Gly Phe  
 85 90 95  
 Val Ser Ile Ser Phe Phe Ser Val Phe Val Asn Ile Val Trp Thr Leu  
 100 105 110  
 Ile Gly Val Val Val Ala Phe Val Leu Cys Val Ile Leu Thr Ile Tyr  
 115 120 125  
 Ile Tyr Lys Leu Ser Val His Pro Pro Lys Ile Lys Glu Val Thr Thr  
 130 135 140  
 Tyr Val Gln Thr Val Ala Val Lys Lys Gly Thr Leu Pro Ile Tyr Asp  
 145 150 155 160  
 Leu Lys Asp Asp Leu Lys Leu Asp Val Gly Lys Gly Val Leu Ile Cys  
 165 170 175  
 Glu Asn Met Glu Val Ser Leu Thr Pro Gln Gln Arg Val Leu Leu Val  
 180 185 190  
 Leu Phe Ile Lys Ala Glu Asn His Thr Leu Ser Met Ser Gln Ile Met  
 195 200 205  
 Ala Asp Val Trp Pro Gly Lys Ser Ile Ser Pro Asp Cys Phe His Lys  
 210 215 220  
 Ala Ile Glu Arg Leu Arg Asp Leu Leu Arg Gln Leu Pro Met Thr Ile  
 225 230 235 240  
 Gln Ile Glu Tyr Leu Gly Glu Glu Ile Tyr Gln Met Gln Ile Leu  
 245 250 255

<210> 5466  
 <211> 67  
 <212> PRT  
 <213> B.fragilis

<400> 5466  
 Phe Ile Leu Asp Lys Gln Asp Lys Met Val Cys Tyr Thr Thr Ser Lys  
 1 5 10 15  
 Ala Glu Asn Lys Ala Ile Ile Tyr Ser Asn His Leu Leu Tyr Asn Gln  
 20 25 30  
 Gln Ser Tyr Ser Tyr Leu Asn Ile Glu Lys His Pro Leu Cys Tyr Lys  
 35 40 45  
 Lys Ser Lys Ser Ile Asp Phe Thr Asn Leu Lys Tyr Lys Ser Lys Ser  
 50 55 60  
 Ile Phe Leu  
 65

<210> 5467  
 <211> 608  
 <212> PRT  
 <213> B.fragilis

<400> 5467

Gly	Thr	Leu	Leu	Lys	Ile	Val	Lys	Leu	Lys	Glu	Ser	Glu	Lys	Asp	Lys
1				5					10					15	
Ser	Thr	Tyr	Tyr	Lys	Val	Val	Asn	Val	Ile	Arg	Asn	Leu	Pro	Lys	Thr
			20					25				30			
Leu	Asn	Val	Glu	Thr	Asp	Ile	Tyr	Phe	Ser	His	Leu	Arg	Glu	Glu	Asn
		35					40					45			
Arg	Gln	Gln	Gly	Tyr	Ile	Thr	Glu	Gly	Thr	Leu	Glu	Thr	Ala	Asp	Gly
		50				55					60				
Leu	Asn	Lys	Ala	Asn	Glu	Ser	Leu	Lys	Gly	Ile	Thr	Thr	Leu	His	Asn
65					70					75					80
Asn	Glu	Met	Ala	Tyr	Phe	Ile	Ala	Asn	Lys	Glu	Ala	Asp	Ser	Tyr	His
				85					90					95	
Asp	Pro	Gln	Arg	Met	Ile	Gly	Ile	Ala	Phe	Ile	Thr	Phe	Leu	Ser	Ser
		100						105					110		
Leu	Ile	Leu	Leu	Ser	Gly	Met	Ile	Asn	Phe	Leu	Lys	Phe	Ile	Ile	Gln
		115					120					125			
Ser	Phe	Tyr	Asn	Arg	Asn	Arg	Glu	Leu	Ala	Leu	Arg	Lys	Ser	Leu	Gly
	130					135					140				
Ala	Ser	Pro	Lys	Ser	Leu	Phe	Ala	Leu	Leu	Phe	Thr	Glu	Ala	Phe	Trp
145					150					155					160
Met	Leu	Thr	Phe	Ser	Leu	Leu	Phe	Ser	Leu	Val	Leu	Ser	Glu	Cys	Thr
				165					170					175	
Cys	Leu	Leu	Leu	Thr	Thr	Tyr	Ile	Pro	Pro	Lys	Glu	Met	Ile	Pro	Ile
			180					185					190		
Asp	Ile	Gln	Thr	Leu	Tyr	Gly	Ile	Gln	Val	Lys	Leu	Tyr	Ile	Gly	Leu
		195					200					205			
Leu	Leu	Ile	Cys	Thr	Leu	Val	Met	Leu	Tyr	Pro	Ile	Arg	Arg	Leu	Gln
	210					215					220				
Arg	Ser	Gly	Leu	Ala	Gly	His	Met	Lys	Thr	Asn	Ser	His	Arg	His	Leu
225					230					235					240
Phe	Arg	Asn	Ile	Met	Met	Cys	Val	Gln	Leu	Cys	Val	Cys	Ile	Phe	Phe
				245					250					255	
Leu	Gly	Met	Ser	Ile	Ala	Ile	His	Leu	Phe	Asn	Ser	Val	Gly	Ser	Val
		260						265					270		
Leu	Tyr	Leu	Pro	Leu	Ser	Asp	Lys	Glu	Thr	Asn	Ser	Thr	Leu	Cys	Phe
	275						280					285			
Glu	Met	Asn	Ser	Val	Thr	Leu	Gly	Lys	Asn	Lys	Asp	Ala	Ile	Leu	Ser
	290					295					300				
Gln	Ile	Lys	Met	Leu	Pro	Gly	Val	Glu	Asn	Ile	Ser	Ser	Ala	Leu	Met
305					310					315					320
Ser	Gly	Asn	Tyr	Asn	Ser	Phe	Leu	Thr	Ser	Asp	Tyr	Glu	Ser	Ala	Asp
				325					330					335	
His	Arg	Thr	Leu	Thr	Val	Arg	Val	Arg	Gln	Gly	Asp	Pro	Ser	Tyr	Phe
			340					345					350		
Gln	Phe	Phe	Arg	Ile	Pro	Phe	Arg	Gly	Glu	Ile	Val	Glu	Pro	His	Thr
	355					360						365			
Ser	Asn	Val	Val	Tyr	Ile	Ser	Glu	Ala	Phe	Gln	Lys	Gln	Leu	Glu	Asn
	370					375					380				
Asp	Ser	Val	Ser	Gly	Asn	Val	Lys	Leu	Gly	Lys	Glu	Asn	Tyr	Arg	Ile
385					390					395					400
Ala	Gly	Thr	Tyr	Lys	Ala	Cys	Tyr	Gly	Glu	Asn	Ile	Ser	Glu	His	Asn
				405					410					415	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500

Gln Tyr Asn Ile Ser Val Phe Phe Pro Thr Glu Glu Ala Ser Val Ile  
 420 425 430  
 Tyr Ile Arg Phe Arg Asp Asp Ile Ser Phe Gly Lys Ala Lys Ser Glu  
 435 440 445  
 Ile Glu Arg Val Cys Arg Asn Tyr Val Pro Glu Ser Leu Pro Leu Asp  
 450 455 460  
 Ile Gln Arg Leu Asp Ile Arg Arg Ser Thr Thr Gln Gly Ile Arg Asp  
 465 470 475 480  
 Leu Met Gly Asp Ala Ser Leu Leu Leu Gly Ile Ile Ser Ala Leu Leu  
 485 490 495  
 Val Ile Leu Ser Ile Tyr Ser Ala Ile Ser Met Asp Thr Val Ser Arg  
 500 505 510  
 Gln Lys Glu Val Ala Ile Arg Lys Ile Asn Gly Ala Thr Pro Lys Ile  
 515 520 525  
 Ile Ala Leu Met Phe Gly Lys Ala Tyr Ile Ile Gln Phe Ile Leu Ala  
 530 535 540  
 Tyr Thr Ile Thr Tyr Pro Leu Leu Arg Leu Leu Val Ile Asp Ile Thr  
 545 550 555 560  
 Lys Asp Ser Pro Ile Ser Ser Ile Thr Gly Phe Ala Trp Gly Ile Tyr  
 565 570 575  
 Leu Phe Ile Leu Ile Gly Leu Leu Ile Phe Val Thr Thr Ala Tyr Lys  
 580 585 590  
 Ile Tyr Arg Ile Met His Leu Asn Pro Ala Glu Ile Ile Lys Asn Glu  
 595 600 605

&lt;210&gt; 5468

&lt;211&gt; 297

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5468

Met Lys Thr Leu Leu Asn Ile Lys Leu His Leu Ser Lys Lys Asn Ile  
 1 5 10 15  
 Phe Thr Ile Leu Val Phe Ile Leu Val Leu Ser Gly Thr Thr Gly Cys  
 20 25 30  
 Ile Gln His Lys Ser Asp Gln Lys Arg Leu Pro Ala Leu Ser Phe Thr  
 35 40 45  
 Val Asn Gly Glu Ser Phe Glu Met Ile Pro Val Glu Gly Gly Thr Phe  
 50 55 60  
 Ile Met Gly Gly Thr Ser Glu Gln Gly Asn Asp Cys Glu Asn Asn Glu  
 65 70 75 80  
 Lys Pro Thr His Glu Glu Thr Leu Pro Phe Phe Tyr Ile Gly Lys Tyr  
 85 90 95  
 Glu Val Thr Gln Lys Leu Trp Lys Ala Val Met Gly Thr Asp Phe Asp  
 100 105 110  
 Gln Ser Tyr Asn Ser Gly Cys Glu Asp Cys Pro Ala Glu Tyr Ile Ser  
 115 120 125  
 Trp Asn Asp Thr Gln Lys Phe Ile Ser Lys Leu Asn Thr Leu Thr Asn  
 130 135 140  
 Lys Thr Phe Arg Leu Pro Thr Asp Ile Glu Trp Glu Tyr Ala Ala Arg  
 145 150 155 160  
 Gly Gly Lys Tyr Ser Glu Lys Tyr Lys Tyr Ser Gly Ser Asn Asp Ile  
 165 170 175  
 Asp Glu Val Ala Trp Tyr Ile Glu Asn Tyr Gln Lys Ser Lys Tyr Gly  
 180 185 190  
 Asp Lys Gly Thr Thr His Pro Val Gly Met Lys Lys Pro Asn Glu Leu  
 195 200 205  
 Gly Leu Tyr Asp Met Ser Gly Asn Val Trp Glu Trp Cys Asp Asn Trp  
 210 215 220

Tyr Thr Gln Glu Tyr Ser Gln Asn Gly Lys Ser Val His Pro Gly Trp  
 225 230 235 240  
 Pro Phe Asn Gly Thr Ser Ala Phe Phe Arg Arg Val Leu Arg Gly Gly  
 245 250 255  
 Ser Trp Gly Gly Thr Ala Lys Gly Cys Arg Val Ser Tyr Ile Asp Tyr  
 260 265 270  
 Asp Val Pro Asn Tyr Arg Asp Glu Tyr Gly Gly Phe Arg Leu Val Leu  
 275 280 285  
 Val Pro Asp Ser Val Gln Thr Ala Asn  
 290 295

<210> 5469

<211> 279

<212> PRT

<213> B.fragilis

<400> 5469

Ile Thr Val Cys Thr Ile Ser Arg Ile Phe Ala Gly Arg Ile Arg Ile  
 1 5 10 15  
 Tyr Phe Gln Gln Tyr Met Lys Lys Phe Ile Leu Asp Leu Thr Val Thr  
 20 25 30  
 Glu Asn Leu Arg Leu His Thr Asn Tyr Val Leu Leu Lys Leu Thr Ser  
 35 40 45  
 Gln Thr Val Leu Pro Asp Met Leu Pro Gly Gln Phe Ala Glu Ile Arg  
 50 55 60  
 Ile Asp Gly Ser Pro Thr Thr Phe Leu Arg Arg Pro Ile Ser Ile Asn  
 65 70 75 80  
 Tyr Val Asp Arg Gln Arg Asn Glu Val Trp Phe Leu Ile Gln Leu Val  
 85 90 95  
 Gly Asp Gly Thr Lys Arg Leu Ala Gln Val Asn Arg Gly Glu Ile Ile  
 100 105 110  
 Asn Val Val Leu Pro Leu Gly Asn Ser Phe Thr Met Pro Glu Lys Pro  
 115 120 125  
 Ser Asp Lys Leu Leu Leu Val Gly Gly Gly Val Gly Thr Ala Pro Met  
 130 135 140  
 Leu Tyr Leu Gly Glu Gln Leu Ala Lys Asn Gly Ser Lys Pro Thr Phe  
 145 150 155 160  
 Leu Leu Gly Ala Arg Ser Asn Lys Asp Leu Leu Gln Leu Glu Asp Phe  
 165 170 175  
 Ala Ala Tyr Gly Glu Val Tyr Thr Thr Glu Asp Gly Ser His Gly  
 180 185 190  
 Glu Lys Gly Tyr Val Thr Gln His Ser Ile Leu Asn Lys Ile Lys Phe  
 195 200 205  
 Glu Gln Ile Tyr Thr Cys Gly Pro Lys Pro Met Met Met Ala Val Ala  
 210 215 220  
 Lys Tyr Ala Lys Gly Asn Asp Ile Asn Cys Glu Val Ser Leu Glu Asn  
 225 230 235 240  
 Thr Met Ala Cys Gly Ile Gly Ala Cys Leu Cys Cys Val Glu Asn Thr  
 245 250 255  
 Thr Glu Gly His Leu Cys Val Cys Lys Glu Gly Pro Val Phe Asn Ile  
 260 265 270  
 Asn Lys Leu Leu Trp Gln Ile  
 275

<210> 5470

<211> 101

<212> PRT

<213> B.fragilis

&lt;400&gt; 5470

Thr Leu Cys Cys Glu Met Val Lys Ala Lys Lys Ile Phe Cys Val Val  
 1 5 10 15  
 Ala Tyr Asp Ile Gln Asp Asp Arg Ser Arg Ile Gln Ile Ser Lys Ile  
 20 25 30  
 Leu Glu Lys Tyr Gly Thr Arg Ile Asn Tyr Ser Val Phe Glu Cys Met  
 35 40 45  
 Phe Thr Asp Arg Gln Phe Gln Lys Ile Gln Ile Asn Leu Glu Arg Trp  
 50 55 60  
 Ile Asn Arg Arg Tyr Asp Thr Val Val Tyr Tyr Pro Met Cys Ile Asn  
 65 70 75 80  
 Cys Tyr Thr Arg Ile Ile Tyr Gln Pro Ile Arg Lys Lys Ile Ile Lys  
 85 90 95  
 Thr Val Glu Ile Val  
 100

&lt;210&gt; 5471

&lt;211&gt; 247

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5471

Asp Cys Phe Arg Gln Lys Tyr Gly Phe Leu Phe Lys Tyr Leu Tyr Phe  
 1 5 10 15  
 Cys Glu Lys Leu Lys Ile Met Arg Ile Asp Ile Ile Thr Val Leu Pro  
 20 25 30  
 Glu Met Ile Glu Gly Phe Phe Asn Cys Ser Ile Met Lys Arg Ala Gln  
 35 40 45  
 Asp Lys Gly Leu Ala Glu Ile His Ile His Asn Leu Arg Asp Tyr Thr  
 50 55 60  
 Glu Asp Lys Tyr Arg Arg Val Asp Asp Tyr Pro Phe Gly Gly Phe Ala  
 65 70 75 80  
 Gly Met Val Met Lys Ile Glu Pro Ile Glu Arg Cys Ile Asn Ala Leu  
 85 90 95  
 Lys Ala Glu Arg Asp Tyr Asp Glu Val Ile Phe Thr Thr Pro Asp Gly  
 100 105 110  
 Glu Gln Phe Asp Gln Lys Met Ala Asn Ser Leu Ser Leu Ser Gly Asn  
 115 120 125  
 Leu Ile Ile Leu Cys Gly His Phe Lys Gly Ile Asp Tyr Arg Ile Arg  
 130 135 140  
 Glu His Leu Ile Thr Lys Glu Ile Ser Ile Gly Asp Tyr Val Leu Thr  
 145 150 155 160  
 Gly Gly Glu Leu Ala Ala Ala Val Met Ala Asp Ala Ile Val Arg Ile  
 165 170 175  
 Ile Pro Gly Val Ile Ser Asp Glu Gln Ser Ala Leu Ser Asp Ser Phe  
 180 185 190  
 Gln Asp Asn Leu Leu Ala Ala Pro Val Tyr Thr Arg Pro Ala Glu Tyr  
 195 200 205  
 Lys Gly Trp Lys Val Pro Glu Ile Leu Leu Ser Gly His Glu Ala Lys  
 210 215 220  
 Ile Lys Glu Trp Glu Leu Gln Gln Ser Leu Glu Arg Thr Arg Arg Leu  
 225 230 235 240  
 Arg Pro Asp Leu Leu Glu Asp  
 245

&lt;210&gt; 5472

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5472

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Ile Phe Ile Ser Lys Met Ala Arg Glu Ala Lys Asn Glu Pro Lys Glu
1      5      10      15
Leu Thr Val Glu Gln Lys Leu Lys Ala Leu Tyr Gln Leu Gln Thr Thr
20      25      30
Leu Ser Lys Ile Asp Glu Ile Lys Thr Leu Arg Gly Glu Leu Pro Leu
35      40      45
Glu Val Gln Asp Leu Glu Asp Glu Ile Ala Gly Leu Ser Thr Arg Ile
50      55      60
Asp Lys Ile Lys Ser Glu Val Asp Glu Leu Lys Ser Ala Ile Ala Gly
65      70      75      80
Lys Arg Val Glu Ile Glu Ala Ala Lys Ala Ser Val Glu Lys Tyr Lys
85      90      95
Ser Gln Gln Asp Asn Val Arg Asn Asn Arg Glu Tyr Asp Phe Leu Thr
100     105     110
Lys Glu Ile Glu Phe Gln Ser Leu Glu Met Glu Leu Cys Glu Lys Arg
115     120     125
Ile Lys Glu Phe Thr Ala Glu Glu Gln Glu Lys Ser Glu Glu Ile Glu
130     135     140
Lys Asn Thr Lys Ala Leu Glu Glu Arg Gln Lys Asp Leu Asp Gln Lys
145     150     155     160
Lys Asn Glu Leu Asp Glu Ile Ile Glu Glu Thr Lys Gln Glu Glu Glu
165     170     175
Lys Leu Arg Asp Lys Ala Lys Asp Leu Glu Thr Lys Ile Glu Pro Arg
180     185     190
Leu Leu Gln Ser Phe Lys Arg Ile Arg Lys Asn Ser Arg Asn Gly Leu
195     200     205
Gly Ile Val Tyr Val Gln Arg Asp Ala Cys Gly Gly Cys Phe Asn Lys
210     215     220
Ile Pro Pro Gln Arg Gln Leu Asp Ile Arg Ser Arg Lys Lys Ile Ile
225     230     235     240
Val Cys Glu Tyr Cys Gly Arg Ile Met Ile Asp Pro Glu Leu Ala Gly
245     250     255
Val Glu Ile Glu His Lys Val Glu Glu Ala Pro Val Thr Thr Lys Arg
260     265     270
Ala Ile Arg Arg Lys Ala Glu
275

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&lt;210&gt; 5473

&lt;211&gt; 452

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5473

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Tyr Leu Ser Ser Gln Lys Met Ala Val Ala Arg Gly Arg Leu Ser Ala
1      5      10      15
Ser Ser Cys Asn Ser Ser Ser Ser Ser Ile Gly Asp Ile Val Ala Ser
20      25      30
Leu Cys Cys Trp His Glu Ile Ile Lys Lys Lys Glu Arg Ser Asn Gly
35      40      45
Lys Asn Ala Phe Ile Gly Leu Ser Leu Tyr Lys Leu Gly Gly Lys Tyr
50      55      60
Ile Lys Lys Ser Ile Lys Ala Arg Gln Gly Ala Ile Phe Phe Leu Tyr
65      70      75      80
Leu Gln Ala Asn Phe Leu Leu Lys Met Lys Ile Lys Glu Ile Val Ser
85      90      95
Ala Leu Glu Arg Phe Ala Pro Leu Pro Leu Gln Asp Gly Phe Asp Asn
100     105     110

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Ala Gly Leu Gln Ile Gly Leu Thr Asp Ala Glu Thr Thr Gly Ala Leu  
 115 120 125  
 Leu Cys Leu Asp Val Thr Glu Ala Val Leu Asp Glu Ala Ile Ala Ser  
 130 135 140  
 Gly Cys Asn Leu Ile Ile Ser His His Pro Leu Ile Phe Lys Gly Tyr  
 145 150 155 160  
 Lys Ser Ile Thr Gly Lys Asp Tyr Val Glu Arg Cys Ile Leu Lys Ala  
 165 170 175  
 Ile Lys Asn Asp Ile Val Ile Tyr Ser Ala His Thr Asn Leu Asp Asn  
 180 185 190  
 Val Pro Gly Gly Val Asn Phe Lys Ile Ala Glu Lys Ile Gly Leu Lys  
 195 200 205  
 Asn Val Arg Ile Leu Asp Pro Lys Glu Ser Ser Leu Ile Lys Leu Val  
 210 215 220  
 Thr Phe Val Pro Ser Ala Gln Ala Glu Glu Val Arg Asn Ala Leu Phe  
 225 230 235 240  
 Thr Ala Gly Cys Gly Cys Ile Gly Asn Tyr Asp Ser Cys Ser Tyr Asn  
 245 250 255  
 Thr Glu Gly Glu Gly Thr Phe Arg Ala Gln Glu Gly Ser His Pro Phe  
 260 265 270  
 Cys Gly Thr Val Gly Glu Leu His Arg Glu Thr Glu Val Arg Ile Glu  
 275 280 285  
 Thr Ile Leu Pro Glu Tyr Lys Lys Gly Glu Val Ile Arg Ala Leu Leu  
 290 295 300  
 Ser Lys His Pro Tyr Glu Glu Pro Ala Tyr Asp Leu Tyr Pro Leu His  
 305 310 315 320  
 Asn Ser Trp Ala Gln Val Gly Ser Gly Ile Val Gly Glu Leu Glu Glu  
 325 330 335  
 Pro Glu Ser Glu Leu Glu Phe Leu Lys Arg Ile Lys Lys Ile Phe Glu  
 340 345 350  
 Val Gly Cys Leu Lys His Asn Lys Leu Thr Gly Arg Leu Ile Gln Lys  
 355 360 365  
 Val Ser Leu Cys Gly Gly Ala Gly Ala Phe Leu Ile Pro Gln Ala Val  
 370 375 380  
 Arg Ser Gly Ala Asp Val Phe Ile Thr Gly Glu Ile Lys Tyr His Asp  
 385 390 395 400  
 Tyr Phe Gly Arg Glu Thr Asp Ile Leu Leu Ala Glu Ile Gly His Tyr  
 405 410 415  
 Glu Ser Glu Gln Tyr Thr Lys Glu Ile Phe Tyr Ser Ile Ile Arg Asp  
 420 425 430  
 Leu Phe Pro Asn Phe Ala Leu Gln Phe Ser Lys Val Asn Thr Asn Pro  
 435 440 445  
 Ile Lys Tyr Leu  
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&lt;210&gt; 5474

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5474

Thr Tyr Asn Gly Glu Glu Gln Cys Glu Glu Leu Cys Phe His Ile Gln  
 1 5 10 15  
 Cys Lys Phe Val Lys Gly Asp Met Glu Val Ile Cys Met Asn Ile Ala  
 20 25 30  
 Leu Asn Tyr Ala Asn Val Ser Arg Ser Lys Met Asn Gln Glu Leu Leu  
 35 40 45  
 Arg Phe Ile Gly Tyr Ile Ser Phe Asn Cys Val Ser Val Leu Ile  
 50 55 60

<210> 5475  
 <211> 396  
 <212> PRT  
 <213> B.fragilis

<400> 5475

Val	Ala	Ser	Gly	Ile	Tyr	Tyr	Tyr	Trp	Cys	Ser	Val	Arg	Ser	Leu	Phe
1				5					10					15	
Met	Ile	Tyr	Ser	Leu	Lys	Thr	Lys	Lys	Met	Gly	Ile	Met	Val	Gly	Leu
			20					25					30		
Pro	Thr	Ser	Gly	Gly	Thr	Glu	Lys	Asp	Leu	Gln	Leu	Asn	Phe	Gly	Leu
		35					40					45			
Thr	Val	Asn	Asp	Gln	Val	Glu	Met	Leu	Ala	Pro	Phe	Leu	Pro	Ala	Glu
	50					55					60				
Trp	Phe	Leu	Gln	Ser	Gly	Ile	Gln	Leu	Thr	Trp	Pro	His	Ala	Gly	Thr
65				70					75						80
Asp	Trp	Ala	Tyr	Met	Leu	Ala	Glu	Val	Gln	Glu	Cys	Phe	Ile	Asn	Ile
			85					90						95	
Ala	Arg	Glu	Ile	Ala	Lys	Arg	Glu	Leu	Leu	Ile	Val	Thr	Pro	Tyr	
		100					105					110			
Pro	Glu	Glu	Val	Arg	Lys	Gln	Ile	Gly	Thr	Val	Asn	Met	Asp	Asn	
	115					120					125				
Val	Arg	Phe	Leu	Lys	Cys	Asp	Thr	Asn	Asp	Thr	Trp	Ala	Arg	Asp	His
	130					135					140				
Gly	Ala	Ile	Thr	Leu	Met	Asp	Thr	Gly	Gly	Ala	Ser	Leu	Leu	Asp	Phe
145				150						155					160
Thr	Phe	Asn	Gly	Trp	Gly	Glu	Lys	Phe	Glu	Ala	Arg	Leu	Asp	Asn	Gln
			165					170						175	
Ile	Thr	Arg	Arg	Ala	Val	Glu	Ala	Gly	Ala	Leu	Lys	Gly	Gln	Tyr	Lys
		180						185					190		
Asp	Cys	Leu	Asn	Phe	Val	Leu	Glu	Gly	Gly	Ser	Ile	Glu	Ser	Asp	Gly
	195						200					205			
Ala	Gly	Thr	Leu	Leu	Thr	Thr	Ser	Glu	Cys	Leu	Leu	Ser	Pro	His	Arg
	210				215						220				
Asn	Ser	Pro	Met	Asn	Arg	Val	Asp	Ile	Glu	Glu	Tyr	Leu	Cys	Arg	Val
225				230					235						240
Phe	His	Leu	Gln	Arg	Val	Leu	Trp	Leu	Asp	His	Gly	Tyr	Leu	Ser	Gly
			245					250						255	
Asp	Asp	Thr	Asp	Ser	His	Ile	Asp	Thr	Leu	Ala	Arg	Phe	Cys	Ser	Pro
		260						265					270		
Asp	Thr	Ile	Ala	Tyr	Val	Lys	Cys	Thr	Asp	Ser	Glu	Asp	Glu	His	Tyr
	275					280						285			
Glu	Ala	Leu	Cys	Lys	Met	Glu	Glu	Gln	Leu	Lys	Thr	Phe	Arg	Thr	Thr
	290					295					300				
Ser	Gly	Ala	Pro	Tyr	Arg	Leu	Leu	Ala	Leu	Pro	Met	Ala	Asp	Lys	Ile
305				310						315					320
Glu	Val	Glu	Gly	Glu	Arg	Leu	Pro	Ala	Thr	Tyr	Ala	Asn	Phe	Leu	Ile
			325					330					335		
Met	Asn	Asp	Val	Val	Leu	Tyr	Pro	Thr	Tyr	Asn	Gln	Pro	Glu	Asn	Asp
		340						345					350		
Lys	Leu	Ala	Lys	Glu	Val	Leu	Cys	Glu	Ala	Phe	Pro	Thr	Tyr	Glu	Val
	355					360						365			
Val	Gly	Ile	Asp	Cys	Arg	Ala	Leu	Ile	Lys	Gln	His	Gly	Ser	Leu	His
	370					375				380					
Cys	Val	Thr	Met	Gln	Tyr	Pro	Thr	Gly	Val	Ile	Lys				
385				390						395					

<210> 5476

<211> 815  
 <212> PRT  
 <213> B.fragilis

<400> 5476

Lys	Pro	Gly	Gly	Ser	Ser	Lys	Asn	Arg	Ile	Lys	Lys	Ser	Asn	Asn	Met
1				5					10					15	
Ile	Gln	His	Tyr	Phe	Lys	Ile	Ala	Cys	Arg	Asn	Leu	Leu	Lys	Tyr	Lys
			20					25					30		
Val	Gln	Asn	Ile	Leu	Ser	Ile	Val	Gly	Leu	Ser	Ile	Gly	Phe	Thr	Ala
		35					40					45			
Phe	Leu	Leu	Gly	Gly	Tyr	Trp	His	Tyr	Trp	Glu	Tyr	His	Phe	Asp	Ser
	50					55					60				
Phe	His	Pro	Gln	Ser	Ser	Arg	Thr	Tyr	Ala	Leu	Thr	Thr	Thr	Gly	Ile
65					70					75					80
Phe	Lys	Thr	Ala	Asp	Gly	Ser	Val	Gly	Glu	Leu	Asn	Gln	Ile	His	Gln
				85				90					95		
Met	Val	Glu	Lys	Asp	Leu	Val	Thr	Phe	Pro	Glu	Ile	Ala	Lys	Val	Cys
			100					105					110		
His	Val	Ser	Lys	Val	Lys	Tyr	Glu	Phe	Glu	Lys	Asp	Thr	Lys	Ser	Trp
		115					120					125			
Ile	Gly	Met	Lys	Ile	Asp	Ser	Thr	Phe	Phe	Asp	Ile	Phe	Gln	Cys	Lys
	130					135					140				
Leu	Ile	Glu	Gly	Ser	Tyr	Lys	Val	Pro	Phe	Asn	Val	Asn	His	Val	
145					150				155					160	
Ile	Leu	Thr	Gln	Lys	Met	Ala	Asn	Phe	Tyr	Phe	Gly	Asp	Ser	Ser	Cys
				165					170					175	
Val	Gly	Lys	Glu	Leu	Lys	Ile	Asn	Asp	Lys	Leu	Ser	Tyr	Thr	Ile	Ala
			180					185					190		
Gly	Val	Met	Glu	Asn	Tyr	Pro	Gln	Asn	Ser	Asp	Phe	Lys	Phe	Glu	Tyr
		195					200				205				
Leu	Ile	Leu	Ala	Thr	Pro	Ser	Pro	Asn	Gln	Val	Lys	Arg	Asn	Thr	Thr
	210					215					220				
Tyr	Val	Trp	Leu	His	Pro	Ser	Ala	Asp	Ala	Ala	His	Leu	Ser	Lys	Lys
225					230				235						240
Ile	Ala	Ala	Tyr	Arg	Val	Lys	Glu	Pro	Asp	Thr	Lys	Trp	Ser	Lys	Tyr
			245						250					255	
Ser	Glu	Trp	Arg	Phe	His	Leu	Arg	Pro	Leu	Pro	Glu	Ile	His	Thr	Arg
		260						265				270			
Cys	Ser	Pro	Glu	Leu	Lys	Gly	Arg	Leu	Gln	His	Ile	Arg	Ile	Leu	Ala
		275					280				285				
Thr	Ala	Gly	Ile	Leu	Ala	Phe	Ala	Ser	Ala	Leu	Met	Asn	Leu	Leu	Val
	290					295					300				
Leu	Phe	Ile	Gly	Gln	Gln	Gln	Arg	Lys	Ala	Arg	Tyr	Asn	Ala	Thr	Phe
305					310				315						320
Ser	Thr	Leu	Gly	Ala	Ser	Ile	Tyr	Ser	Leu	Ile	Gly	Lys	Asn	Leu	Leu
			325						330				335		
Glu	Leu	Thr	Leu	Pro	Leu	Phe	Ile	Ala	Phe	Leu	Leu	Ser	Met	Ala	Phe
			340					345					350		
Ile	Glu	Phe	Leu	Phe	Pro	Phe	Tyr	Lys	Asp	Tyr	Thr	Ser	Leu	Val	Ala
		355					360					365			
Glu	Ser	Ser	Ser	Tyr	Tyr	Asn	Gly	Val	Ile	Gln	Ser	Ile	Thr	Arg	Gln
	370					375					380				
Glu	Val	Leu	Lys	Ala	Ser	Tyr	Trp	Ile	Tyr	Pro	Leu	Cys	Cys	Leu	Ile
385					390					395					400
Phe	Leu	Val	Leu	Ser	Thr	Val	Pro	Ile	Val	Gly	Leu	Leu	Lys	Arg	Asn
			405						410				415		
Ser	Arg	Gly	Thr	Ser	Leu	Ala	Leu	Arg	Asn	Gly	Leu	Ile	Ile	Gly	Gln
			420					425					430		

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 Arg Asp Ile Val Ile Asn Glu Thr Gly Ala Arg Glu Leu Asn Ile Pro  
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 Cys Pro Met Gln Tyr Pro Leu Ser Lys Val Phe Phe Met Tyr Gln Asn  
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 740 745 750  
 Ala Ile Ala Leu Pro Leu Gly Tyr Leu Phe Ile Lys Arg Trp Leu Glu  
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 Thr Tyr Ala Tyr His Thr Asp Ile His Gly Trp Leu Phe Val Cys Val  
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 Phe Leu Phe Thr Cys Ile Ile Val Ile Leu Ser Val Met Arg Gln Val  
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 Val Val Ala Ala Lys Ile Asn Pro Ala Glu Ser Val Lys Ser Glu  
 805 810 815

&lt;210&gt; 5477

&lt;211&gt; 396

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5477

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 20 25 30

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Ser Glu Gln Asn Thr Glu Val Ile Met Ser Gly Arg Lys Val Leu Met
  35          40          45
Phe Gly Ser Asn Ser Tyr Leu Gly Leu Thr Asn His Pro Lys Val Ile
  50          55          60
Glu Ala Ala Val Glu Ala Thr Arg Lys Tyr Gly Thr Gly Cys Ala Gly
  65          70          75          80
Ser Arg Phe Leu Asn Gly Thr Leu Asp Leu His Leu Gln Leu Glu Lys
          85          90          95
Glu Leu Ala Glu Phe Val Gly Lys Glu Asp Ala Ile Ile Tyr Ser Thr
          100          105          110
Gly Phe Gln Val Asn Leu Gly Val Val Ser Cys Val Thr Gly Arg Glu
          115          120          125
Asp Tyr Val Ile Cys Asp Glu Leu Asp His Ala Ser Ile Val Glu Gly
          130          135          140
Arg Arg Leu Ser Phe Ser Thr Ile Leu Lys Phe Lys His Asn Asp Met
          145          150          155          160
Glu Ser Leu Glu Lys Glu Leu Gln Lys Cys Arg Pro Asp Ala Val Lys
          165          170          175
Leu Ile Val Val Asp Gly Val Phe Ser Met Glu Gly Asp Ile Ala Asn
          180          185          190
Leu Pro Glu Ile Val Arg Leu Ser Lys Lys Tyr Asp Ala Asn Ile Met
          195          200          205
Val Asp Glu Ala His Gly Leu Gly Val Leu Gly Asn His Gly Arg Gly
          210          215          220
Thr Cys Asp His Phe Gly Leu Thr Lys Glu Val Asp Leu Ile Met Gly
          225          230          235          240
Thr Phe Ser Lys Ser Leu Ala Ala Ile Gly Gly Phe Ile Ala Ala Asp
          245          250          255
Glu Ser Ile Ile Asn Tyr Leu Arg His Asn Ser Arg Ser Tyr Ile Phe
          260          265          270
Ser Ala Ser Asn Thr Pro Ala Ala Thr Ala Ala Ala Arg Ala Ala Leu
          275          280          285
Gln Ile Met Lys Asn Glu Pro Glu Arg Ile Glu His Leu Trp Asp Ile
          290          295          300
Thr Asn Tyr Ser Leu Lys Cys Phe Arg Glu Leu Gly Phe Glu Ile Gly
          305          310          315          320
His Thr Ser Thr Pro Ile Ile Pro Leu Tyr Val Arg Asp Met Glu Lys
          325          330          335
Thr Phe Met Val Thr Lys Met Leu Phe Asp Glu Gly Val Phe Val Asn
          340          345          350
Pro Val Val Pro Pro Ala Cys Ser Pro Asn Asp Thr Leu Ile Arg Phe
          355          360          365
Ser Leu Met Ala Thr His Ser Lys Glu Gln Ile Asp Phe Ala Ile Gly
          370          375          380
Lys Leu Val Lys Cys Phe Lys Ala Leu Asp Leu Leu
          385          390          395

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&lt;210&gt; 5478

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5478

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Phe Val Phe Met Arg Lys Ser Asn Asp Ile Ile Phe Tyr Ser Leu Leu
  1          5          10          15
Ala Leu Cys Leu Phe Thr Asn Cys Leu Phe Ile Gly Tyr Tyr Tyr Tyr
          20          25          30
Gln Gln Asn Arg Glu Val Leu Leu Gly Gln Glu Leu Glu His Gln Lys
          35          40          45

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Lys Gln Asn Tyr Glu Leu Ile Val Asn Gln Ile Glu Ser Gly Ile Ile  
 50 55 60  
 Pro His Val Ile Ser Asp Lys Lys Glu Phe Ala Gly Tyr Phe Val Leu  
 65 70 75 80  
 Val Phe Pro Asn Gly Ile Cys Asp Val Cys Asn Lys Trp Leu Phe Lys  
 85 90 95  
 Gln Ile Ser Glu Leu Ser Ser Thr Ser Asp Leu Val Val Val Val Pro  
 100 105 110  
 Asp Lys Leu Lys Lys Asn Met Glu Ile Tyr Asn Thr Val Tyr Lys Leu  
 115 120 125  
 Lys Leu Ser Ser Ile Phe Cys Ser Glu Lys Tyr Ala Met Pro Gln Glu  
 130 135 140  
 Glu Phe Lys Asp Met Thr Tyr Ile Phe Tyr Cys Ser Lys Thr Gly Thr  
 145 150 155 160  
 Val Leu Tyr Pro Leu Ala Leu His His Lys Asn Ile Asp Leu Asp Leu  
 165 170 175  
 Tyr Phe Lys Leu Val Lys Ser Ile Asp Leu Asp Phe Leu  
 180 185

<210> 5479

<211> 261

<212> PRT

<213> B.fragilis

<400> 5479

Trp Asn Leu Met Lys Thr Lys Gln Glu Ile Val Ala Asn Trp Leu Pro  
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 20 25 30  
 Thr Asn Phe Asn Lys Tyr Val Glu Ile Phe Ala Glu Lys Phe Asn Val  
 35 40 45  
 Pro Ile Leu Gly Lys Asp Ala Asn Met Ile Ser Ala Ser Ala Glu Gly  
 50 55 60  
 Ile Thr Ile Ile Asn Phe Gly Met Gly Ser Pro Asn Ala Ala Ile Ile  
 65 70 75 80  
 Met Asp Leu Leu Ser Ala Ile Ser Pro Lys Ala Cys Leu Phe Leu Gly  
 85 90 95  
 Lys Cys Gly Gly Ile Asp Lys Lys Asn Lys Ile Gly Asp Leu Ile Leu  
 100 105 110  
 Pro Ile Ala Ala Ile Arg Gly Glu Gly Thr Ser Asn Asp Tyr Phe Pro  
 115 120 125  
 Pro Glu Val Pro Ser Leu Pro Ala Phe Met Leu Gln Arg Ala Val Ser  
 130 135 140  
 Ser Ala Ile Arg Asp Tyr Ala Arg Asp Tyr Trp Thr Gly Thr Val Tyr  
 145 150 155 160  
 Thr Thr Asn Arg Arg Ile Trp Glu His Asp Asp Thr Phe Lys Glu Tyr  
 165 170 175  
 Leu Lys Arg Thr Arg Ala Met Ala Val Asp Met Glu Thr Ala Thr Leu  
 180 185 190  
 Phe Ser Cys Gly Phe Ala Asn His Ile Pro Thr Gly Ala Leu Leu Leu  
 195 200 205  
 Val Ser Asp Gln Pro Met Ile Pro Glu Gly Val Lys Thr Asp Lys Ser  
 210 215 220  
 Asp Asn Ile Val Thr Lys Asn Tyr Val Glu Glu His Val Glu Ile Gly  
 225 230 235 240  
 Ile Ala Ser Leu Arg Met Ile Ile Asp Glu Lys Lys Thr Val Lys His  
 245 250 255  
 Leu Lys Phe Asp Trp  
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<210> 5480  
 <211> 464  
 <212> PRT  
 <213> B.fragilis

<400> 5480

Gln	Leu	Leu	Met	Lys	Thr	Val	Arg	Glu	Thr	Ile	Leu	Glu	Pro	Ile	Ile	1	5	10	15
Asn	Ile	Val	Gln	Val	Pro	Lys	Met	Leu	Gln	Asp	Val	Phe	Arg	Ile	Leu	20	25	30	
Ile	Gln	Pro	Ala	Leu	Val	His	Ile	Gln	Phe	Phe	Val	Lys	Asn	Asn	Ser	35	40	45	
Tyr	Leu	Phe	Lys	Cys	Tyr	Arg	Lys	Arg	Cys	Phe	Pro	Leu	Pro	Val	Tyr	50	55	60	
Ser	Asn	Asn	Met	Leu	Val	Met	Lys	Tyr	Leu	Asn	Leu	Phe	Ile	Phe	Val	65	70	75	80
Leu	Leu	Leu	Ala	Gly	Cys	Asn	Arg	Pro	Val	Lys	His	Ser	Asp	Ile	Ile	85	90	95	
Gln	Ala	Asp	Thr	Met	Val	Ser	Ile	Ile	Pro	Gln	Glu	Asp	Thr	Ile	Thr	100	105	110	
Leu	Ser	Ala	Leu	Phe	Ser	Arg	Cys	Glu	Ile	Val	Lys	Leu	Asn	Asp	Ile	115	120	125	
Val	Leu	Ala	Ser	Ile	Asn	Lys	Val	Phe	Lys	Tyr	Asp	Ser	Leu	Trp	Ile	130	135	140	
Val	Gln	Gly	Lys	Ser	Asp	Gln	Gly	Gly	Val	His	Leu	Phe	Asn	Asn	Glu	145	150	155	160
Gly	Arg	Tyr	Leu	Lys	Thr	Val	Leu	Lys	Trp	Gly	Gln	Gly	Pro	Glu	Glu	165	170	175	
Ala	Tyr	Asp	Ile	Trp	Ser	Ile	Lys	Leu	Leu	Asp	Gly	Ser	Ile	Tyr	Leu	180	185	190	
Leu	Ile	Asn	Ser	Gly	Thr	Glu	Val	Val	Glu	Tyr	Ser	Leu	Gln	Lys	Gln	195	200	205	
Lys	Met	Val	Glu	Arg	Phe	Arg	Leu	Pro	Ser	Glu	Ile	Leu	Ser	Ala	Thr	210	215	220	
Asp	Phe	Val	Val	Asp	Asn	Gly	Gly	Asn	Tyr	Ile	Phe	Leu	Lys	Ser	Ile	225	230	235	240
Ser	Arg	Glu	Lys	Lys	Glu	Glu	Tyr	Lys	Leu	Tyr	Val	Tyr	Asn	Lys	245	250	255		
Lys	Glu	Gly	Thr	Ile	Val	Asn	Arg	Ile	Leu	Asn	Met	Asp	Lys	Lys	Ser	260	265	270	
Ser	Glu	Tyr	Ile	Ser	Phe	Asp	Gln	Ser	Asp	Cys	Leu	Tyr	Arg	Val	Gln	275	280	285	
Asp	Glu	Ile	Tyr	Tyr	Tyr	Glu	Val	Phe	Arg	Asn	Gly	Ile	Cys	Arg	Leu	290	295	300	
Ser	Ala	Asn	Asp	Met	Thr	Gly	Tyr	Ile	Ala	Phe	Lys	Gln	Asn	Glu	Tyr	305	310	315	320
Thr	Phe	Pro	Glu	Lys	Glu	Leu	Tyr	Asn	Glu	Asp	His	Thr	Phe	Gln	Ser	325	330	335	
Phe	Ile	Asp	Val	Cys	Glu	Asn	Ser	Pro	Phe	Ile	Trp	Ala	His	Arg	Asn	340	345	350	
Leu	Phe	Glu	Gly	Glu	Arg	Phe	Val	Ser	Ser	Thr	Tyr	Met	Tyr	Lys	Lys	355	360	365	
Glu	Leu	Phe	Trp	Asn	Ile	Ile	Asp	Lys	Ser	Asp	Tyr	Ser	Val	His	Ser	370	375	380	
Tyr	Lys	Trp	Val	Tyr	Asp	Asp	Leu	Ile	Leu	Asn	Glu	Val	Val	Pro	Val	385	390	395	400
Glu	Asp	Tyr	Leu	Tyr	Arg	Ala	Asn	Val	Gln	Glu	Asn	Ile	His	Tyr	Tyr	405	410	415	

GenBank accession number: F01001.1 (B.fragilis)

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Thr Leu Ser Phe Tyr Asp Phe Asp Arg Ile Met Gln Leu Lys Lys Lys
      420      425      430
Cys Lys Lys Ser Val Gly Glu Lys Trp Met Val Lys Leu Asp Asp Met
      435      440      445
Leu Asp Glu Asn Ser Asn Asp Ile Ile Val Cys Phe Tyr Glu Lys Lys
      450      455      460

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<210> 5481

<211> 471

<212> PRT

<213> B.fragilis

<400> 5481

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      20      25      30
Pro Leu Pro Gln Gly Trp Glu Glu Asp Thr Gln Ile Phe Gln Gln Val
      35      40      45
Leu Pro Val Asp Asp Gln Trp Trp Lys Ala Phe Gln Asp Pro Val Leu
      50      55      60
Asp Ser Leu Ile Ser Val Ala Val Lys Gln Asn Tyr Ser Val Leu Thr
      65      70      75      80
Ala Ile Asp Arg Ile Asn Met Ala Lys Ala Asn Leu Arg Met Glu Arg
      85      90      95
Gly Asn Phe Phe Pro Thr Ile Gly Leu Asn Ala Gly Trp Thr Arg Gln
      100      105      110
Gln Ser Ser Gly Asn Thr Ser Asp Leu Pro Gln Ser Thr Gln His Tyr
      115      120      125
Tyr Asp Ala Ser Leu Asn Met Ser Trp Glu Leu Asp Leu Phe Gly Ser
      130      135      140
Ile Arg Asn Arg Val Lys Ala Gln Lys Glu Asn Phe Ala Ala Ser Lys
      145      150      155      160
Glu Glu Tyr Thr Gly Thr Met Ile Ser Leu Cys Ala Gln Val Ala Ser
      165      170      175
Ala Tyr Ile Asn Leu Arg Glu Leu Gln Gln Glu Leu Ala Val Val Gln
      180      185      190
Lys Asn Cys Ala Ser Gln Glu Ala Val Leu Lys Ile Thr Glu Val Arg
      195      200      205
Tyr Asn Thr Gly Leu Val Ser Lys Leu Asp Val Ala Gln Ala Lys Ser
      210      215      220
Val Phe Phe Ser Thr Lys Ala Ser Ile Pro Gln Ile Glu Ser Gly Ile
      225      230      235      240
Asn Gln Tyr Ile Thr Thr Leu Ala Ile Leu Leu Gly Thr Tyr Pro Gln
      245      250      255
Glu Val Arg Pro Ala Leu Thr Ala Pro Gly Thr Leu Pro Asp Tyr Met
      260      265      270
Glu Pro Ile Gly Val Gly Leu Pro Ala Asp Leu Leu Leu Arg Arg Pro
      275      280      285
Asp Ile Arg Ser Ala Glu Arg Ser Val Asn Ala Gln Ala Ala Leu Val
      290      295      300
Gly Ala Ser Lys Ser Asp Trp Leu Pro Gln Val Phe Leu Lys Gly Ser
      305      310      315      320
Val Gly Tyr Ala Ala Lys Asp Leu Lys Asp Leu Thr His His Lys Ser
      325      330      335
Met Thr Tyr Glu Ile Ala Pro Ala Leu Ser Trp Thr Leu Phe Lys Gly
      340      345      350
Thr Gln Leu Val Asn Ala Thr Lys Leu Ala Lys Ala Gln Leu Asp Glu
      355      360      365

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000



Ala Ile Asn Gln Phe Asn Gln Thr Val Leu Thr Ala Val Gln Glu Thr  
 370 375 380  
 Asp Asn Ala Met Asn Ala Tyr Arg Asn Ser Ile Lys Gln Ile Val Ala  
 385 390 395 400  
 Leu Arg Glu Val Arg Asn Gln Gly Gln Glu Thr Leu Thr Leu Ser Leu  
 405 410 415  
 Glu Leu Tyr Lys Gln Gly Leu Thr Pro Phe Gln Asn Val Leu Asp Ala  
 420 425 430  
 Gln Arg Ser Leu Leu Ser Tyr Glu Asn Gln Leu Val Gln Ala Arg Gly  
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 Trp Ser Gly Asn Leu Asn Asn  
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 Val Tyr Met Ser Leu Arg Leu Gln Arg Glu Lys Glu Ala Asn Arg His  
 35 40 45  
 Phe Ser Glu Thr Tyr Ser Ile Gln Leu Thr Lys Gly Phe Val Gly Asp  
 50 55 60  
 Ser Ile Ser Leu Phe Val Asn Asp Ser Leu Ile Met Asn Lys Gln Ile  
 65 70 75 80  
 Lys Glu Glu Pro Thr Ala Ile Glu Val Glu Arg Phe Ala Glu Gln Ser  
 85 90 95  
 Ala Leu Met Ile Val Asn Asn Gln Thr Glu Thr Val Ala Ala Phe Asp  
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 Gly Trp Ile Met Ile Leu Lys Val Ile Arg Phe Cys Arg Ile Phe Arg  
 20 25 30  
 Ile Met Thr Leu Tyr Lys Ile Asn Asn Val Asn Asp Ser Phe Arg His  
 35 40 45  
 Leu Leu Ser Ser Phe Gln Glu Val Asn Ile Val Asn Ala Arg Ser  
 50 55 60

<210> 5484  
 <211> 152  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5484

Cys Tyr Ser Ile Leu Phe Ile Ile Ser Val Ile Lys Ile Val Ile Cys  
 1 5 10 15  
 Phe Ile His Tyr Lys Asn Asn Asp Thr Phe Ala Glu Ile Asn Cys Glu  
 20 25 30  
 Lys Arg Met Val Met Ser Trp Gly Lys Thr Ile Leu Gly Cys Leu Ile  
 35 40 45  
 Gly Gly Tyr Ala Leu Leu Gly Leu Leu Gly Gly Asn Tyr Ala Tyr Glu  
 50 55 60  
 Gln Glu Val Lys Ala Leu His Val Tyr Ala Asp Ser Val Phe His Glu  
 65 70 75 80  
 Ala Phe His Val Glu Leu Gln Lys Arg Gly Met Asp Gln Val Glu Ser  
 85 90 95  
 Trp Arg Tyr Gly Cys Glu Asp Ser Phe Val Ser Ser Val Asp Thr Ala  
 100 105 110  
 Phe Lys Lys Val Thr Ile Gln Asp Glu Tyr Gly Thr Tyr Ser Phe Arg  
 115 120 125  
 Val Asp Ala Met Lys Ile Arg Lys Asn Ile Val Ser Ser Pro Gly Glu  
 130 135 140  
 Gln Gly Leu His Thr Val Val Val  
 145 150

&lt;210&gt; 5485

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5485

Ala Met Asn Ile Glu Glu Phe Arg Glu Tyr Cys Leu Ser Phe Lys Gly  
 1 5 10 15  
 Val His Asp Arg Met Pro Phe Lys Lys Ala Thr Ser Glu Tyr Asp Arg  
 20 25 30  
 Asp Leu Leu Val Phe Tyr Val Met Asp Lys Trp Phe Cys Phe Val Asn  
 35 40 45  
 Ile Asp Ala Phe Asp Phe Cys Asn Ile Lys Cys Asn Ala Gly Gln Ile  
 50 55 60  
 Glu Asp Leu Leu Asp Lys Tyr Glu Gly Val Gln Pro Gly Tyr His Met  
 65 70 75 80  
 Asn Lys Lys His Trp Ile Ser Val Tyr Phe Asp Lys Asp Val Pro Asp  
 85 90 95  
 Lys Met Ile Lys Asp Leu Val Lys Gln Ser Tyr Glu Ile Val Val Ser  
 100 105 110  
 Ser Leu Ala Arg Arg Glu Arg Glu Ile Leu Gln Ala Met  
 115 120 125

&lt;210&gt; 5486

&lt;211&gt; 247

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5486

Thr Ser Ile Phe Leu Leu Phe Cys Phe Leu Leu Pro Asn Ile Ala Ile  
 1 5 10 15  
 Ile Thr Thr Ile Thr Ile Thr Asn Asp Met Lys Asn Thr His Val Leu  
 20 25 30  
 Leu Ile Lys Phe Lys Asn Lys Ile Ser Asp Asp Glu Val Gln Phe Phe  
 35 40 45  
 Arg Ser Ser Ile Ile Gln Lys Leu Gly Asp Gln Pro Asp Ile Leu Tyr

```

      50              55              60
His Asn His Val Glu Lys Asn Lys Tyr Arg Tyr Ser Tyr Pro Leu Ile
65              70              75              80
Gln Tyr Lys Asn Ile Glu Gln Gln Ala Thr Ile Val Cys Ile Asp Gln
      85              90              95
Gly Thr Lys Ala Ile Glu Lys Phe Phe Ser Gln Cys Asp Phe Asn Phe
      100             105             110
Gln Leu Gly Asn Arg Lys Val Asn Met Lys Phe Ala Ser Val Thr Pro
      115             120             125
Tyr Lys Leu Leu Ile Glu Arg Gln Ser Lys Met Ile Asn Tyr His Ile
      130             135             140
His Asn Trp Leu Pro Leu Asn Ser Asp Asn Tyr Lys Lys Tyr Gln Asn
145             150             155             160
Ile Ser Ile Leu Ser Glu Arg Ile Asn Phe Leu Glu Lys Ile Leu Ile
      165             170             175
Gly Asn Ile Leu Ser Phe Thr Lys Gly Val Asn Tyr Phe Ile Asp Phe
      180             185             190
Pro Leu Gln Cys Lys Leu Leu Gln Leu Ser Phe Ala Lys Leu Ile Ser
      195             200             205
Asn Lys Asn Ile Lys Leu Met Ser Phe Asp Ala Asp Phe Gln Cys Asn
      210             215             220
Leu Asn Leu Pro Asp Tyr Ile Gly Ile Gly Lys His Thr Ser Ile Gly
225             230             235             240
Tyr Gly Thr Ile Thr Arg Asn
      245

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&lt;210&gt; 5487

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5487

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Arg Leu Val Ile Met Lys Lys Leu Met Tyr Ile Phe Leu Ile Leu Pro
1              5              10              15
Leu Ile Met Ser Gly Cys Lys Gly Lys Lys Glu Thr Glu Arg Gly Gly
      20              25              30
Met Pro Thr Pro Glu Ile Ser Val Ala Tyr Pro Leu Val Gln Asn Ile
      35              40              45
Thr Leu Thr Lys Asp Tyr Pro Gly Tyr Leu Thr Thr Glu Gln Thr Val
      50              55              60
Asn Leu Val Ala Arg Val Asn Gly Ala Leu Gln Ser Ala Ser Phe Thr
65              70              75              80
Pro Gly Thr Arg Val Lys Gln Gly Gln Leu Leu Phe Val Ile Glu Pro
      85              90              95
Thr Ile Tyr Lys Asp Asn Val Thr Gln Ala Glu Ala Gln Leu Lys Thr
      100             105             110
Ala Leu Ala Gln Leu Glu Tyr Ala Arg Asn Asn Tyr Ser Arg Met Lys
      115             120             125
Glu Ala Leu Lys Ser Asp Ala Val Ser Arg Ile Gln Val Leu Gln Ala
      130             135             140
Glu Ser Asn Val Ala Glu Ala Thr Ala Ala Val Ser Asn Ala Glu Ala
145             150             155             160
Thr Leu Asn Thr Ala His Thr Asn Leu Gly Tyr Cys Tyr Ile Arg Ala
      165             170             175
Pro Phe Asn Gly Thr Val Ser Arg Ser Leu Tyr Asp Val Gly Ser Tyr
      180             185             190
Ile Ser Gly Ala Ala Gln Pro Val Thr Leu Ala Thr Ile Tyr Lys Asp
      195             200             205
Asp Arg Met Tyr Thr Tyr Phe Asn Val Ala Asp Asn Gln Trp Leu Ser

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210	215	220
Met Leu Leu Ser Gln Asn Gly Lys Glu Lys Glu Leu Pro Lys Asn Val		
225	230	235
Ile Val Arg Leu Gly Glu Asn Gly Thr Gln Asn Tyr Pro Ala Thr Leu		240
	245	250
Asp Tyr Leu Ser Pro Asn Val Asp Leu Asn Thr Gly Thr Leu Asn Val		255
	260	265
Arg Ala Asn Leu Asp Asn Pro Lys Gly Ile Leu Lys Ser Gly Leu Tyr		270
	275	280
Val Ser Ile Thr Leu Pro Tyr Ala Glu Ala Lys Gln Ala Val Leu Val		285
	290	295
Pro Glu Ala Ser Ile Gly Thr Asp Gln Leu Gly Lys Tyr Leu Tyr Ile		300
305	310	315
Val Asn Asp Ser Asn Ile Val Arg Tyr Arg His Ile Glu Pro Gly Gln		320
	325	330
Leu Val Asn Asp Thr Leu Arg Gln Ile Lys Ser Gly Leu Ser Pro Lys		335
	340	345
Glu Gln Tyr Val Thr Thr Ala Leu Met Lys Val Arg Asp Gly Met Lys		350
	355	360
Val Lys Pro Val Ser Val Asn His Glu Ser Pro Thr Ser Asn Arg		365
370	375	380

&lt;210&gt; 5488

&lt;211&gt; 412

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5488

His Ile Cys Ile Ile Glu Cys Tyr Ile His Ala Asn Asp Phe His Ile		
1	5	10
Thr Phe Tyr Lys Phe Ala Leu Asn Met Lys Thr Gln Phe Phe Thr Leu		15
	20	25
Phe Phe Thr Ile Ile Cys Leu Ser Leu Gln Ala Gln Gln Pro Cys Ile		30
	35	40
Ile Glu Gly Asn Ile Asn Gly Ile Pro Asp Gly Thr Val Ile Ser Met		45
	50	55
Met Arg Gln Gln Gly Thr Gly Met Lys Arg Ile Ala Asn Asp Thr Ile		60
65	70	75
Asp Asn Gly Lys Phe Lys Phe Ile Ile His Thr Leu Asn Asn Gln Thr		80
	85	90
Glu Ala Leu Arg Ile Val Ser Lys Gly Glu Gly Phe Pro Asn Thr Trp		95
	100	105
Leu Asp Val Tyr Ala Ser Pro Gly Glu Thr Val Ser Ile Ile Gly Ser		110
	115	120
Asp Lys Leu Leu Arg Thr Trp Asn Ile Val Ser Asn Ile Lys Glu Gln		125
130	135	140
Gln Glu Glu Asn Gln Tyr Thr Asn Glu Gly Phe Arg Asn Leu Thr Asp		145
145	150	155
Gln Arg Gln Arg Leu Gln Ala Leu Ser Ser Asp Met Trp Lys Lys Ile		160
	165	170
Ala Ile Ser Asp Ser Pro Lys Glu Lys Ile Gln Met Thr Asp Ser Ile		175
	180	185
Gln Asn Ile Leu Tyr Pro Gln Leu Asp Ser Leu Glu Leu Leu Ser		190
	195	200
Lys Glu Glu Ile Asn Leu Met Lys Asn Leu Pro Val Thr Ser Ile Trp		205
210	215	220
Leu Asp His Leu Glu Ala Leu Ser Arg Gln Ser Val Tyr Leu Lys Gly		
225	230	235
Phe Pro Ile Ser Glu Ala Gln Val Leu Tyr Gln Gln Leu Thr Ser Thr		240

245 250 255  
 Gln Arg Asn Ser Gln Ile Gly Lys Lys Ile Glu Ala Cys Leu Thr Pro  
 260 265 270  
 Thr Lys Ala Lys Ile Gly Asp Asp Met Pro Asp Thr Glu Leu Ser Asn  
 275 280 285  
 Ile Asp Gly Asn His His Arg Leu Ser Asp Tyr Lys Gly Lys Tyr Leu  
 290 295 300  
 Leu Leu Asp Phe Trp Ser Arg Ser Cys Gly His Cys Ile Glu Ser Leu  
 305 310 315 320  
 Pro Glu Met Glu Ile Leu Ser Asp Met Trp Lys Glu Lys Val Thr Phe  
 325 330 335  
 Ile Gly Ile Asn Ile Asp Asp Glu Lys Ser Trp Lys Glu Phe Ser Gln  
 340 345 350  
 Arg Lys Asn Ile Lys Trp Ile Asp Leu Asn Asp Pro Lys Gly Ala Phe  
 355 360 365  
 Gly Leu Tyr Ile Arg Tyr Lys Ala Asn Gly Thr Pro Phe Tyr Val Leu  
 370 375 380  
 Val Thr Pro Asp Gly Lys Ile Thr Asp Ile Trp Tyr Gly Tyr Asn Lys  
 385 390 395 400  
 Asp Ser Leu Ser Glu Arg Leu Lys Gln Gly Ile Lys  
 405 410

&lt;210&gt; 5489

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5489

Ile Tyr Cys Met Lys Gln Leu Ile Asp Leu Glu Asn Trp Asn Arg Lys  
 1 5 10 15  
 Glu His Phe Lys Phe Phe Ser Ala Phe Asp Asp Pro Phe Phe Gly Ile  
 20 25 30  
 Thr Thr Leu Val Asp Phe Thr Asn Thr Tyr His Gln Ser Lys Asp Glu  
 35 40 45  
 Lys Lys Ser Phe Phe Leu Tyr Ser Val His Phe Leu Leu Gln Cys Val  
 50 55 60  
 Asn Glu Val Glu Ala Phe Lys Leu Arg Ile Glu Gly Glu Gln Val Val  
 65 70 75 80  
 Lys Tyr Asp Phe Ile His Leu Ser Pro Thr Ile Gly Arg Glu Asp Gly  
 85 90 95  
 Thr Phe Gly Phe Gly Phe Phe Glu Tyr Asp Ala Asp Leu Glu Val Phe  
 100 105 110  
 Ile Gln Asn Ala Glu Lys Glu Ile Glu Arg Val Lys Asn Ser Thr Gly  
 115 120 125  
 Leu Ser Phe Ser Glu Asn Ile Gly Arg Leu Asp Leu Ile Arg Tyr Ser  
 130 135 140  
 Ala Leu Pro Trp Phe Ala Phe Ser Glu Met Lys His Ala Val Ser Phe  
 145 150 155 160  
 Gly Arg Gly Asp Ser Val Pro Arg Ile Ser Thr Gly Lys Leu Ile Lys  
 165 170 175  
 Glu Asn Gly Val Tyr Leu Leu Pro Ile Ser Ile Ser Gly His His Ala  
 180 185 190  
 Leu Met Asp Gly Arg Asn Val Ala Glu Leu Ile Glu Lys Leu Glu Thr  
 195 200 205  
 Thr Lys Lys  
 210

&lt;210&gt; 5490

&lt;211&gt; 143

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5490

```

Thr Val Leu Ile Leu Ile Ile Leu Glu Tyr Ile Tyr Ile Leu Met Leu
1           5           10           15
Trp Ser Val Leu Cys Gln Arg Gly Arg Ser Leu Asn Pro Tyr Tyr Thr
          20           25           30
Gly Ile His Leu His Lys Asp Glu Asn Gly Tyr Tyr Ile Lys Ser Val
          35           40           45
Thr Arg Leu Asn Pro Tyr Tyr Thr Gly Ile His Leu His Leu Asn Arg
          50           55           60
Ala Ala Lys Lys Leu Asn Cys Phe Cys Leu Asn Pro Tyr Tyr Thr Gly
65           70           75           80
Ile His Leu His Glu Lys Glu Lys Asp Glu Val Gly Glu Met Thr Ser
          85           90           95
Leu Asn Pro Tyr Tyr Thr Gly Ile His Leu His Cys Leu Cys Ser Ile
          100          105          110
Arg Glu Glu Gly Tyr Arg Arg Leu Asn Pro Tyr Tyr Thr Gly Ile His
          115          120          125
Leu His Ile Thr Cys Leu Gly Ser Tyr Leu Ser Cys Ile Val Ser
          130          135          140

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&lt;210&gt; 5491

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5491

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Gln Val Leu Ile Leu Ile Ile Leu Glu Tyr Ile Tyr Ile Val Cys Val
1           5           10           15
Pro Ser Val Lys Lys Ala Ile Gly Val Leu Ile Leu Ile Ile Leu Glu
          20           25           30
Tyr Ile Tyr Ile Leu Leu Val Trp Ala Val Ile Cys Leu Val Ser Cys
          35           40           45
Leu Asn Pro Tyr Tyr Thr Gly Ile His Leu His Val Thr Ile Asn Asn
          50           55           60
Gln Asp Met Gly Leu Gly Val Leu Ile Leu Ile Leu Glu Tyr Ile
65           70           75           80
Tyr Met Asn Ser Asp Ile Leu Tyr Arg Thr Pro His Val Ser
          85           90

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&lt;210&gt; 5492

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5492

```

Lys Leu Glu Met Lys Ile Ser Lys Lys Gln Ile Glu Tyr Ala Ile Glu
1           5           10           15
Ala Leu Arg Ala Asn Asn Ile Ile Thr Asn Asp Asn Gln Tyr Pro Lys
          20           25           30
Val Phe Lys Gly Tyr Ile Ser Ser Phe Gly Ala Ala Val Ile Gln Ser
          35           40           45
Gly Leu Ile Pro Ala Ile Ile Phe Phe Glu Asn Glu Asp Asn Asp Ala
          50           55           60
Asn Ala Asp Arg His Lys Ile Ile Gly Val Leu Lys Asp Ile Ile Asn
65           70           75           80
Ala Met Arg Gln Gln Tyr Thr Val Thr Asp Ala Thr Ile Leu Val Ser

```

			85					90				95			
Ser	Gln	Ile	Pro	Ala	Asn	Tyr	Ser	Met	Ala	Gln	Tyr	Ile	Ile	Glu	His
			100					105				110			
Gly	Asn	Thr	Asp	Gln	Leu	Leu	Lys	Glu	Ile	Thr	Glu	Ala	Ala	Val	Ala
			115				120					125			
Met	Lys	Leu	Ala	Leu	Arg	Met	Tyr	Lys	Ser	Glu					
			130				135								

&lt;210&gt; 5493

&lt;211&gt; 749

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5493

Asn	Glu	Glu	Ile	Asn	Ile	Ser	Met	Ile	Leu	His	Tyr	Leu	Lys	Ile	Val
1			5					10					15		
Phe	Arg	Gln	Met	Ala	Lys	Arg	Lys	Val	Gln	Thr	Ala	Ile	Ser	Ile	Leu
			20				25					30			
Gly	Ile	Thr	Ala	Gly	Leu	Leu	Cys	Phe	Ser	Val	Cys	Asn	Tyr	Tyr	Asn
			35				40				45				
Arg	Ile	Phe	Ser	Thr	Gly	Asn	Lys	Asp	Leu	Ala	Thr	Tyr	Glu	Asn	Gln
			50			55					60				
Ala	Glu	Ile	Cys	Ile	Lys	Glu	Arg	Ser	Tyr	Gln	Val	Asn	Ile	Pro	Ile
65					70					75				80	
Glu	Asp	Phe	Glu	Lys	Lys	Ile	Gly	Lys	Asp	Lys	Phe	Glu	Ala	Val	Ala
				85				90				95			
Phe	Tyr	Val	Asn	Ser	Ser	Ser	Thr	Ile	Thr	Leu	Asp	Glu	Thr	Ile	Tyr
			100					105				110			
Cys	Lys	Val	Asp	Lys	Thr	Glu	Cys	Asn	Ala	Asp	Tyr	Phe	Lys	Val	Phe
			115				120				125				
Pro	Thr	Glu	Cys	Ile	Asp	Gly	Ser	Leu	Lys	Gln	Phe	Gly	Ile	Ser	Gly
			130			135					140				
Asn	Glu	Ala	Val	Val	Thr	Thr	Glu	Phe	Val	Lys	Gln	Phe	Cys	Gly	Gly
145					150					155				160	
Val	Pro	Pro	Leu	Gly	Lys	Thr	Ile	Leu	Asn	Gln	Arg	Gly	Lys	Ile	His
				165					170					175	
Thr	Ile	Ile	Ala	Val	Ile	Lys	Pro	Tyr	Pro	Ala	Gly	Met	Asn	Asn	Tyr
			180					185				190			
His	Ser	Ser	Tyr	Asp	Val	Phe	Leu	Pro	Leu	Pro	Glu	Asn	Ala	Ser	Phe
			195				200				205				
Gly	Ile	His	Lys	Leu	Leu	Leu	Lys	Arg	Pro	Glu	Asp	Ala	Glu	His	Ile
			210			215				220					
Ser	Gln	Leu	Leu	Pro	Lys	Leu	Gly	Leu	Phe	Pro	Asn	His	Pro	Glu	Trp
225				230					235					240	
Ile	Pro	Gln	Ile	Val	Leu	Asp	Ser	Gln	Thr	Glu	His	Lys	Ala	Gly	Ala
				245					250					255	
Glu	Leu	Trp	Val	Ala	Ile	Leu	Gly	Leu	Leu	Val	Leu	Leu	Val	Gly	Met
			260				265					270			
Ile	Asn	Tyr	Phe	Ser	Phe	Ser	Ile	Gly	Ala	Phe	Ala	Asn	Arg	Tyr	Lys
			275				280				285				
Glu	Ile	Ser	Leu	Arg	Asn	Thr	Leu	Gly	Ser	Thr	Tyr	Trp	Gly	Leu	Phe
			290			295					300				
Ile	Leu	Leu	Phe	Leu	Glu	Gln	Ala	Val	Ile	Ile	Leu	Ile	Cys	Gly	Ile
305				310					315					320	
Ile	Thr	Leu	Ala	Ile	Thr	Glu	Ser	Leu	Leu	Pro	Trp	Phe	Ile	Ser	Thr
				325					330					335	
Phe	Ser	Asn	Glu	Ile	Gln	Arg	Asn	Leu	Tyr	Ile	Asp	Ile	His	Arg	Leu
			340					345				350			
Trp	Val	Tyr	Glu	Cys	Gln	Tyr	Ile	Gly	Gly	Leu	Leu	Leu	Ile	Ser	Leu

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      355              360              365
Leu Ile Ser Phe Ile Ser Ser Trp His Ile Ala His Lys Thr Ile Ala
  370              375              380
Gln Gly Leu Arg Gly Gly Thr Thr Thr Gly Gln Arg His Ile Ile Arg
 385              390              395              400
Asn Thr Leu Leu Ser Val Gln Leu Leu Phe Ser Phe Leu Phe Ile Val
      405              410              415
Gly Thr Val Gly Ile Arg Met Gln Met Lys Glu Tyr Asp Leu Ser Ala
      420              425              430
Asn Pro Asn Leu Ser Thr Glu Val Lys Lys Glu Ile Met Val Val Asn
      435              440              445
Ile Gly Arg Tyr Asp Arg Ile Arg Glu His Gln Pro Glu Leu Ile Asn
 450              455              460
Phe Leu Arg Ser Arg Arg Trp Asn Ala Glu Thr Ala Tyr Thr Asn Arg
 465              470              475              480
Asp Tyr Ser Gln Glu Tyr Gly Phe Thr Glu Leu Cys Phe Val Ser Asp
      485              490              495
Asp Tyr Phe Asn Leu Met Asn Ile Lys Cys His His Lys Pro Gly Glu
      500              505              510
Pro Phe Cys Tyr Val Asn Glu Gln Leu Tyr Gln Thr Leu Gln Ala Asp
      515              520              525
Ser Thr Ser Glu Ser Phe Arg Phe Gln Asn Gln Val Tyr Pro Val Lys
 530              535              540
Gly Leu Val His Ile Gly Pro Asp Ser Pro Ser Ala Lys Gln Leu Ala
 545              550              555              560
Leu Leu Pro Leu Ser Ala Met Asn Asp Glu Ile Gly Lys Ile Tyr Ile
      565              570              575
Arg Leu Val Pro Asp Ala Pro Arg Lys Glu Val Lys Ala Glu Met Ser
      580              585              590
Lys Glu Met Asn Gln Tyr Leu Pro Gln Asn Glu Pro Phe Glu Phe Ile
      595              600              605
Ser Leu Tyr Glu Glu Gln Thr Gly Leu Gly Thr Ile Ser Val Met Trp
 610              615              620
Leu Phe Val Val Cys Ser Ser Ile Cys Leu Val Ile Thr Val Leu Gly
 625              630              635              640
Val Tyr Gly Ala Ile Ser Ile Asp Thr Ile Arg Lys Gln Lys Glu Val
      645              650              655
Ala Ile Arg Lys Ile Asn Gly Ala Arg Leu Pro Asp Ile Tyr Trp Leu
      660              665              670
Phe Ala Lys Asn Tyr Leu Ile Leu Phe Leu Ile Ala Ser Val Val Gly
      675              680              685
Gly Leu Ile Ser Leu Phe Val Met Val Ile Gly Ser Gln His Arg Val
 690              695              700
Ile Leu Phe Asp Tyr Ala Asp Pro Trp Leu Trp Met Gly Pro Leu Met
 705              710              715              720
Leu Leu Ile Gly Ile Ile Thr Ala Thr Ile Ser Trp Gln Ile Tyr Tyr
      725              730              735
Ile Ala Arg Thr Asn Pro Ala Glu Val Ile Lys Asn Glu
      740              745

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&lt;210&gt; 5494

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5494

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Cys Cys Gly Ile Lys Asp Lys Tyr Leu Arg Ser Glu Ser Ala Leu Met
1              5              10              15
Thr Leu Leu Gly Ile Val Ser Ile Val Cys Val Ile Ile Ser Ile Phe

```



		20					25				30				
Gly	Ile	Phe	Ser	Gln	Val	Thr	Leu	Ser	Cys	Glu	Gln	Arg	Arg	Lys	Glu
		35					40					45			
Ile	Ala	Ile	Arg	Lys	Val	Asn	Gly	Ala	Thr	Ile	Gly	Ser	Ile	Leu	Gln
	50					55					60				
Met	Phe	Ile	Lys	Glu	Tyr	Phe	Val	Leu	Leu	Leu	Val	Ala	Ala	Leu	Ile
65					70					75					80
Ala	Phe	Pro	Ala	Ser	Tyr	Gly	Met	Met	Arg	Val	Trp	Ile	Glu	Ser	Tyr
				85					90					95	
Val	Arg	Gln	Thr	Ser	Thr	Pro	Phe	Trp	Ile	Tyr	Ile	Val	Leu	Phe	Ala
		100						105					110		
Gly	Ile	Gly	Ile	Ile	Ile	Val	Ile	Ser	Ile	Phe	Trp	Arg	Val	Trp	Asn
	115						120					125			
Ala	Ala	Lys	Gln	Asn	Pro	Ala	Glu	Val	Val	Lys	Thr	Glu			
	130						135					140			

&lt;210&gt; 5495

&lt;211&gt; 331

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5495

Pro	Leu	Leu	Ile	Arg	Met	Lys	Ile	Thr	Phe	Gly	Gln	Gln	Thr	Thr	Lys
1				5					10					15	
Val	Lys	Gln	Leu	Ala	Asp	Lys	Ile	Ser	Phe	Asp	Ile	Ser	Met	Gly	Val
		20						25				30			
Tyr	Lys	Ser	Gly	Asp	Ser	Leu	Pro	Ser	Ile	Asn	Gln	Leu	Ser	Gln	Ala
	35					40					45				
Tyr	Glu	Val	Ser	Arg	Asp	Thr	Val	Phe	Lys	Ala	Phe	Leu	Asp	Leu	Lys
	50				55						60				
Glu	Arg	Gly	Ile	Ile	Asp	Ser	Thr	Pro	Gly	Lys	Gly	Tyr	Tyr	Val	Val
65					70					75					80
Gly	Arg	Leu	Lys	Asn	Val	Leu	Leu	Leu	Leu	Asp	Glu	Tyr	Ser	Pro	Phe
			85					90					95		
Lys	Tyr	Ala	Leu	Tyr	Asn	Ser	Phe	Val	Lys	Arg	Leu	Ser	Ile	Arg	Tyr
	100							105					110		
Lys	Val	Asp	Leu	Leu	Phe	His	Gln	Tyr	Asn	Glu	Arg	Leu	Phe	Asn	Thr
	115						120					125			
Ile	Ile	Arg	Glu	Ser	Leu	Gly	Arg	Tyr	Asn	Lys	Tyr	Ile	Val	Met	Asn
	130					135					140				
Phe	Asp	Asn	Glu	Lys	Leu	Ser	Pro	Asn	Leu	Tyr	Lys	Ile	Asn	Pro	Ser
145					150					155					160
Lys	Leu	Leu	Leu	Leu	Asp	Phe	Gly	Lys	Phe	Glu	Lys	Glu	Gly	Phe	Ser
			165				170							175	
Tyr	Val	Cys	Gln	Asp	Phe	Asp	Gln	Gly	Phe	Tyr	Asn	Ala	Leu	Phe	Gln
			180				185						190		
Leu	Ala	Asp	Arg	Leu	Arg	Lys	Tyr	Gln	Lys	Leu	Val	Phe	Val	Leu	Val
	195					200						205			
Asp	Asp	Ser	Met	His	Pro	Arg	Ser	Ser	Arg	Asp	Phe	Phe	Glu	Arg	Phe
	210					215					220				
Cys	Ala	Asp	Gln	His	Leu	Gly	Cys	Glu	Val	Val	Ser	Asp	Ile	Glu	Gly
225					230					235					240
Leu	Gln	Val	Arg	Arg	Gly	Glu	Val	Tyr	Ile	Ala	Ile	Arg	Gln	Ile	Asp
			245					250						255	
Val	Val	Ser	Ile	Ile	Lys	Lys	Ser	Arg	Val	Glu	Gly	Leu	Gln	Cys	Gly
		260						265					270		
Val	Asp	Phe	Gly	Leu	Ile	Gly	Tyr	Asn	Asp	Thr	Pro	Ala	Tyr	Glu	Val
	275						280					285			
Ile	Asp	Gln	Gly	Ile	Thr	Ala	Leu	Ser	Val	Asp	Trp	Glu	Lys	Met	Gly

290                      295                      300  
 Asp Lys Ala Ala Glu Phe Val Leu Gln Gly Lys Thr Ile Gln Asp Tyr  
 305                      310                      315                      320  
 Leu Pro Thr Glu Val Arg Leu Arg Ala Ser Leu  
                     325                      330

<210> 5496  
 <211> 228  
 <212> PRT  
 <213> B.fragilis

<400> 5496  
 Lys Ile Thr Ile Met Ile Lys Thr Ile Asn Leu Gln Lys Ile Phe Lys  
 1                      5                      10                      15  
 Thr Glu Glu Val Glu Thr Trp Ala Leu Asn Asn Val Ser Val Glu Val  
                     20                      25                      30  
 Lys Glu Gly Glu Phe Val Ala Ile Met Gly Pro Ser Gly Cys Gly Lys  
                     35                      40                      45  
 Ser Thr Leu Leu Asn Ile Leu Gly Leu Leu Asp Asn Pro Thr Gly Gly  
 50                      55                      60  
 Glu Tyr Tyr Leu Asn Gly Lys Glu Val Ser Lys Tyr Thr Glu Ser Gln  
 65                      70                      75                      80  
 Arg Thr Asn Leu Arg Lys Gly Val Ile Gly Phe Val Phe Gln Ser Phe  
                     85                      90                      95  
 Asn Leu Ile Asp Glu Leu Asn Val Tyr Glu Asn Ile Glu Leu Pro Leu  
                     100                      105                      110  
 Leu Tyr Met Gly Ile Pro Ala Ser Glu Arg Lys Gln Arg Val Glu Lys  
                     115                      120                      125  
 Ala Met Glu Arg Met Ala Ile Thr His Arg Ser Lys His Phe Pro Gln  
 130                      135                      140  
 Gln Leu Ser Gly Gly Gln Gln Gln Arg Val Ala Ile Ala Arg Ala Val  
 145                      150                      155                      160  
 Val Ala Asn Pro Lys Leu Ile Leu Ala Asp Glu Pro Thr Gly Asn Leu  
                     165                      170                      175  
 Asp Ser Lys Asn Gly Lys Glu Val Met Gly Leu Leu Ser Glu Leu Asn  
                     180                      185                      190  
 Lys Glu Gly Thr Thr Ile Val Met Val Thr His Ser Gln His Asp Ala  
                     195                      200                      205  
 Gly Phe Ala Asp Arg Val Ile Asn Leu Phe Asp Gly Gln Val Val Thr  
 210                      215                      220  
 Glu Val Thr Ile  
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<210> 5497  
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<400> 5497  
 Arg Tyr Thr Met Leu Gln Ile Asp Asn Ala Cys Ile Ala Phe Gly Glu  
 1                      5                      10                      15  
 Asp Ile Leu Phe Ser Glu Phe Cys Met Arg Leu Asn Lys Gly Glu Thr  
                     20                      25                      30  
 Ala Cys Ile Ala Gly Gln Ser Gly Arg Gly Lys Thr Ser Leu Leu Asn  
                     35                      40                      45  
 Ala Ile Met Gly Phe Val Pro Leu Arg Lys Gly Lys Ile Lys Val Gly  
 50                      55                      60  
 Gly Ile Leu Leu Glu Pro Thr Thr Ile Asp Ala Ile Arg Arg His Ile  
 65                      70                      75                      80

Ala Trp Ile Pro Gln Glu Leu Ala Leu Pro Ser Glu Trp Val Lys Glu  
85 90 95  
Met Ile Ser Leu Pro Phe Ala Leu Lys Ala Asn Arg His Ile Ser Phe  
100 105 110  
Ser Lys Glu Lys Leu Phe Thr Cys Phe Asp Glu Leu Gly Leu Asp Lys  
115 120 125  
Glu Leu Tyr Gln Lys Arg Val Gly Glu Ile Ser Gly Gly Gln Arg Gln  
130 135 140  
Arg Ile Met Ile Ala Val Ala Ala Met Leu Glu Lys Pro Leu Ile Ile  
145 150 155 160  
Val Asp Glu Pro Thr Ser Ala Leu Asp Ala Gly Ser Thr Asp Lys Val  
165 170 175  
Leu Ala Phe Phe Arg Asn Gln Ala Glu Lys Gly Thr Ala Ile Leu Ala  
180 185 190  
Val Ser His Asp Arg Thr Phe Ala Tyr Gly Cys Asn Gln Leu Ile Thr  
195 200 205  
Leu

<210> 5498  
<211> 170  
<212> PRT  
<213> B.fragilis

<400> 5498  
Thr Leu Tyr Phe Cys Glu Ser Thr Asn Lys Ser Tyr Ile Cys Lys Ser  
1 5 10 15  
Ser Lys Asp Met Glu Ile Lys Asp Arg Ile Lys Ile Ile Met Glu Lys  
20 25 30  
Glu Asn Met Ala Ser Gly Ala Phe Ala Glu Ser Ile Gly Ile Gln Gln  
35 40 45  
Ser Thr Leu Ser His Ile Leu Asn Gly Arg Asn Asn Pro Ser Leu Asp  
50 55 60  
Val Ile Met Lys Val His Gln Lys Tyr Asn Tyr Val Lys Leu Glu Trp  
65 70 75 80  
Leu Leu Tyr Gly Gln Gly Asn Ile Ser Glu Glu Ser Ile Gln Ser Ala  
85 90 95  
Ser Asp Phe Gln Pro Ser Leu Phe Ala Glu Asn Ala Ile Ile Pro Pro  
100 105 110  
Asn Gly Thr Val Thr Pro Glu Asn Arg Arg Glu Met Pro Leu Glu Ser  
115 120 125  
Ser Gln Asn Thr Pro Lys Glu Ile Val Lys Gln Glu Ile Arg Tyr Ile  
130 135 140  
Glu Lys Pro Ser Arg Lys Ile Thr Glu Ile Arg Ile Phe Phe Asp Asp  
145 150 155 160  
Asn Thr Tyr Glu Thr Phe Arg Gly Glu Lys  
165 170

<210> 5499  
<211> 62  
<212> PRT  
<213> B.fragilis

<400> 5499  
Phe Ile Phe Val Lys Tyr Pro Pro Ser Met Asn Ile Pro Ile Asp Val  
1 5 10 15  
Ile Asp Ser Ile Ile Phe Gly Leu Phe Cys Ile Ser Phe Glu Leu Ser  
20 25 30  
Tyr His Ile Gln Cys Leu Tyr Val Cys Leu Phe Gln Tyr Asn Pro Glu

35                      40                      45  
 Asp Leu Asp Tyr Ile Gly Asn Leu His Gln Thr Thr Leu Ile  
 50                      55                      60

<210> 5500  
 <211> 686  
 <212> PRT  
 <213> B.fragilis

<400> 5500

Lys Ile Tyr Val Ile Met Gln Lys Gly Asn Ile Gly Val Thr Thr Glu  
 1                      5                      10                      15  
 Asn Ile Phe Pro Ile Ile Lys Lys Phe Leu Tyr Ser Asp His Glu Ile  
 20                      25                      30  
 Phe Leu Arg Glu Leu Val Ser Asn Ala Val Asp Ala Thr Gln Lys Leu  
 35                      40                      45  
 Asn Thr Leu Ala Ser Ile Ser Glu Phe Lys Gly Glu Leu Gly Asp Leu  
 50                      55                      60  
 Thr Val His Val Ser Leu Gly Lys Asp Thr Ile Thr Ile Ser Asp Arg  
 65                      70                      75                      80  
 Gly Ile Gly Leu Thr Ala Glu Glu Ile Asp Lys Tyr Ile Asn Gln Ile  
 85                      90                      95  
 Ala Phe Ser Gly Ala Asn Asp Phe Leu Glu Lys Tyr Lys Asn Asp Ala  
 100                      105                      110  
 Asn Ala Ile Ile Gly His Phe Gly Leu Gly Phe Tyr Ser Ala Phe Met  
 115                      120                      125  
 Val Ser Lys Lys Val Glu Ile Ile Thr Lys Ser Tyr Lys Glu Gly Ala  
 130                      135                      140  
 Gln Ala Val Lys Trp Thr Cys Asp Gly Ser Pro Glu Phe Thr Leu Glu  
 145                      150                      155                      160  
 Glu Val Glu Lys Ala Asp Arg Gly Thr Asp Ile Val Leu Tyr Ile Asp  
 165                      170                      175  
 Asp Asp Cys Lys Glu Phe Leu Glu Glu Ser Arg Ile Ser Ala Leu Leu  
 180                      185                      190  
 Lys Lys Tyr Cys Ser Phe Leu Pro Val Pro Ile Ala Phe Gly Lys Lys  
 195                      200                      205  
 Lys Glu Trp Lys Asp Gly Lys Gln Val Glu Thr Ala Glu Asp Asn Val  
 210                      215                      220  
 Ile Asn Asp Thr Ile Pro Leu Trp Thr Lys Lys Pro Ser Glu Leu Ser  
 225                      230                      235                      240  
 Asp Glu Asp Tyr Lys Lys Phe Tyr Arg Glu Leu Tyr Pro Met Ser Asp  
 245                      250                      255  
 Glu Pro Leu Phe Trp Ile His Leu Asn Val Asp Tyr Pro Phe His Leu  
 260                      265                      270  
 Thr Gly Ile Leu Tyr Phe Pro Lys Val Lys Ser Asn Ile Asp Leu Asn  
 275                      280                      285  
 Lys Asn Lys Ile Gln Leu Tyr Cys Asn Gln Val Tyr Val Thr Asp Ser  
 290                      295                      300  
 Val Glu Gly Ile Val Pro Asp Phe Leu Thr Leu Leu His Gly Val Leu  
 305                      310                      315                      320  
 Asp Ser Pro Asp Ile Pro Leu Asn Val Ser Arg Ser Tyr Leu Gln Ser  
 325                      330                      335  
 Asp Ser Asn Val Lys Lys Ile Ser Thr Tyr Ile Ser Lys Lys Val Ser  
 340                      345                      350  
 Asp Arg Leu Gln Ser Ile Phe Lys Asn Asp Arg Ala Gln Phe Glu Glu  
 355                      360                      365  
 Lys Trp Asn Asp Leu Lys Ile Phe Ile Asn Tyr Gly Met Leu Thr Gln  
 370                      375                      380  
 Glu Asp Phe Tyr Asp Lys Ala Gln Lys Phe Ala Leu Phe Thr Asp Thr

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385          390          395          400
Asp Gly Lys His Tyr Thr Phe Glu Glu Tyr Gln Thr Leu Ile Lys Asp
      405          410          415
Asn Gln Thr Asp Lys Asp Lys Asn Leu Ile Tyr Leu Tyr Ala Asn Asn
      420          425          430
Lys Asp Glu Gln Phe Ala Tyr Ile Glu Ala Ala Lys Asn Lys Gly Tyr
      435          440          445
Asn Val Leu Leu Met Asp Gly Gln Leu Asp Val Ala Met Val Ser Met
      450          455          460
Leu Glu Gln Lys Leu Glu Lys Ser Arg Phe Thr Arg Val Asp Ser Asp
465          470          475          480
Val Val Asp Asn Leu Ile Val Lys Glu Asp Lys Lys Ser Asp Val Leu
      485          490          495
Glu Ala Ser Lys Gln Glu Ala Leu Ser Ala Ala Phe Lys Ser Gln Leu
      500          505          510
Pro Lys Met Glu Lys Val Glu Phe Asn Val Met Thr Gln Ala Leu Gly
      515          520          525
Glu Asn Gly Ser Pro Val Met Ile Thr Gln Ser Glu Tyr Met Arg Arg
      530          535          540
Met Lys Glu Met Ala Asn Ile Gln Ala Gly Met Ser Phe Tyr Gly Glu
545          550          555          560
Met Pro Asp Met Phe Asn Leu Val Leu Asn Ser Asp His Lys Leu Val
      565          570          575
Lys Glu Val Leu Ala Asp Glu Glu Lys Glu Cys Ser Ala Ala Ile Ala
      580          585          590
Pro Ile Gln Thr Glu Leu Glu Asp Val Thr Lys Arg Arg Asp Ala Leu
      595          600          605
Lys Lys Lys Gln Glu Gly Lys Lys Asp Glu Asp Ile Pro Thr Ala Glu
      610          615          620
Lys Asp Glu Leu Asn Asp Leu Asp Lys Lys Trp Asp Glu Leu Lys Gln
625          630          635          640
Gln Lys Asp Ser Ile Phe Ala Gly Tyr Ala Gly Lys Asn Lys Val Val
      645          650          655
Arg Gln Leu Ile Asp Leu Ala Leu Leu Gln Asn Asn Met Leu Lys Gly
      660          665          670
Glu Ala Leu Asn Asn Phe Val Lys Arg Ser Ile Glu Leu Ile
      675          680          685

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&lt;210&gt; 5501

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5501

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Asn His Ser Val Lys Lys Glu Trp Glu Leu Ser Arg Ile Ser Asn Ile
1          5          10          15
Thr Asn Gln Lys Ser Met Lys Lys Tyr Ile Leu Ser Ser Leu Thr Ile
      20          25          30
Thr Phe Leu Leu Leu Ser Ile Thr Ala Cys Ser Gln Gly Lys Gln Ile
      35          40          45
Ser Gly Ser Ser Asn Tyr Ile Thr Lys Asn Ile Lys Val Gly Ser Phe
      50          55          60
Asp Gln Ile Lys Ser Met Ser Ser Ser Asp Ile Val Tyr Thr Gln Lys
65          70          75          80
Gln Gly Ala Pro Thr Val Gln Ile Tyr Gly Pro Asp Asn Ile Val Glu
      85          90          95
Leu Met Glu Thr Ser Val Ser Gly Arg Thr Leu Thr Ile Lys Phe Lys
      100          105          110
Lys Asn Thr Ser Ile Arg Asn Ser Gly Lys Leu Glu Ile Arg Val Ser

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115  
Ser Pro Ser Leu Thr  
130

120

125

<210> 5502  
<211> 303  
<212> PRT  
<213> B.fragilis

<400> 5502

Arg	Leu	Leu	Leu	Ile	Leu	Met	Ile	Gln	Thr	Arg	Leu	Lys	Gly	Met	Gly
1				5					10					15	
Val	Ala	Leu	Ile	Thr	Pro	Phe	Lys	Glu	Asp	Glu	Ser	Val	Asp	Tyr	Asp
			20					25					30		
Ala	Leu	Met	Arg	Leu	Val	Asp	Tyr	Leu	Leu	Gln	Asn	Asn	Ala	Asp	Phe
		35					40					45			
Leu	Cys	Val	Leu	Gly	Thr	Thr	Ala	Glu	Thr	Pro	Thr	Leu	Ser	Glu	Glu
	50				55						60				
Glu	Lys	Lys	Lys	Ile	Lys	Lys	Met	Val	Ile	Asp	Arg	Val	Asn	Gly	Arg
65				70						75					80
Ile	Pro	Ile	Leu	Leu	Gly	Val	Gly	Ser	Asn	Asn	Thr	Arg	Ala	Val	Val
			85						90					95	
Glu	Thr	Leu	Lys	Asn	Asp	Asp	Phe	Thr	Gly	Val	Asp	Ala	Ile	Leu	Ser
			100					105					110		
Val	Val	Pro	Tyr	Tyr	Asn	Lys	Pro	Ser	Gln	Glu	Gly	Ile	Tyr	Gln	His
		115				120						125			
Tyr	Lys	Ala	Ile	Ala	Ser	Ala	Thr	Glu	Leu	Pro	Ile	Val	Leu	Tyr	Asn
	130					135					140				
Val	Pro	Gly	Arg	Thr	Gly	Val	Asn	Met	Thr	Ala	Glu	Thr	Thr	Leu	Arg
145					150					155					160
Ile	Ala	Lys	Asp	Phe	Gln	Asn	Val	Ile	Ala	Ile	Lys	Glu	Ala	Ser	Gly
				165					170					175	
Asn	Ile	Thr	Gln	Met	Asp	Asp	Ile	Ile	Lys	Asn	Lys	Pro	Ala	Asn	Phe
			180					185					190		
Asp	Val	Ile	Ser	Gly	Asp	Asp	Gly	Ile	Thr	Phe	Pro	Leu	Ile	Thr	Leu
	195						200					205			
Gly	Ala	Val	Gly	Val	Ile	Ser	Val	Ile	Gly	Asn	Ala	Phe	Pro	Arg	Glu
	210					215					220				
Phe	Ser	Arg	Met	Thr	Arg	Leu	Ala	Leu	Gln	Gly	Asp	Phe	Ala	Asn	Ala
225					230					235					240
Leu	Thr	Ile	His	His	Lys	Phe	Thr	Glu	Leu	Phe	Asn	Leu	Leu	Phe	Val
			245						250					255	
Asp	Gly	Asn	Pro	Ala	Gly	Val	Lys	Ser	Met	Leu	Asn	Ala	Met	Gly	Met
			260					265					270		
Ile	Glu	Asn	Lys	Leu	Arg	Leu	Pro	Leu	Val	Pro	Thr	Arg	Ile	Thr	Thr
		275					280					285			
Phe	Glu	Ala	Ile	Arg	Lys	Val	Leu	Asn	Glu	Leu	Asn	Ile	Lys	Cys	
	290					295					300				

<210> 5503  
<211> 745  
<212> PRT  
<213> B.fragilis

<400> 5503

Lys	Asp	Ala	Phe	Leu	Gln	Pro	Arg	Gly	Glu	Tyr	Val	Leu	Leu	Ala	Ile
1				5					10					15	
Leu	Lys	Asp	Lys	Asp	Asn	Leu	Ala	Ala	Thr	Val	Leu	Glu	Ala	Asn	His
		20						25					30		

Val	Asn	Tyr	Gln	Gln	Val	Phe	Glu	Gln	Leu	Ser	Leu	Gln	Pro	Asp	Ile
	35						40					45			
Ser	Ala	Gly	Met	Gly	Phe	Thr	Glu	Asp	Asp	Asp	Asp	Glu	Glu	Glu	Met
	50					55					60				
Asn	Gln	Ser	Arg	Ser	Ser	His	Gly	Ser	Gly	Glu	Arg	Gln	Gln	Gln	Ala
65					70					75					80
Gln	Thr	Ala	Ser	Arg	Lys	Pro	Thr	Asn	Asp	Thr	Pro	Val	Leu	Asp	Asn
			85						90					95	
Phe	Gly	Thr	Asp	Met	Thr	Lys	Ala	Ala	Glu	Glu	Gly	Arg	Leu	Asp	Pro
			100					105					110		
Val	Val	Gly	Arg	Glu	Arg	Glu	Ile	Glu	Arg	Leu	Ala	Gln	Ile	Leu	Ser
		115					120					125			
Arg	Arg	Lys	Lys	Asn	Asn	Pro	Ile	Leu	Ile	Gly	Glu	Pro	Gly	Val	Gly
	130					135					140				
Lys	Ser	Ala	Ile	Val	Glu	Gly	Leu	Ala	Leu	Arg	Ile	Ile	Gln	Lys	Lys
145					150					155					160
Val	Ser	Arg	Ile	Leu	Phe	Asp	Lys	Arg	Val	Val	Ala	Leu	Asp	Met	Thr
				165					170					175	
Ala	Val	Val	Ala	Gly	Thr	Lys	Tyr	Arg	Gly	Gln	Phe	Glu	Glu	Arg	Ile
			180					185					190		
Arg	Ser	Ile	Leu	Asn	Glu	Leu	Gln	Lys	Asn	Pro	Asn	Val	Ile	Leu	Phe
		195					200					205			
Ile	Asp	Glu	Ile	His	Thr	Ile	Val	Gly	Ala	Gly	Ser	Ala	Ala	Gly	Ser
	210					215					220				
Met	Asp	Ala	Ala	Asn	Met	Leu	Lys	Pro	Ala	Leu	Ala	Arg	Gly	Glu	Ile
225				230						235					240
Gln	Cys	Ile	Gly	Ala	Thr	Thr	Leu	Asp	Glu	Tyr	Arg	Lys	Asn	Ile	Glu
			245						250					255	
Lys	Asp	Gly	Ala	Leu	Glu	Arg	Arg	Phe	Gln	Lys	Val	Met	Val	Glu	Pro
			260					265					270		
Thr	Thr	Ala	Asp	Glu	Thr	Leu	Gln	Ile	Leu	Arg	Asn	Ile	Lys	Asp	Lys
		275					280					285			
Tyr	Glu	Asp	His	His	Asn	Val	Asn	Tyr	Thr	Asp	Ala	Ala	Leu	Glu	Ala
	290				295						300				
Cys	Val	Lys	Leu	Thr	Asp	Arg	Tyr	Ile	Thr	Asp	Arg	Asn	Phe	Pro	Asp
305					310					315					320
Lys	Ala	Ile	Asp	Ala	Leu	Asp	Glu	Ala	Gly	Ser	Arg	Val	His	Leu	Thr
			325						330					335	
Asn	Val	Ser	Val	Pro	Lys	Glu	Ile	Glu	Asp	Gln	Glu	Lys	Leu	Ile	Glu
			340					345					350		
Glu	Ala	Lys	Asn	Asn	Lys	Asn	Glu	Ala	Val	Lys	Ser	Gln	Asn	Phe	Glu
		355					360					365			
Leu	Ala	Ala	Ser	Phe	Arg	Asp	Lys	Glu	Lys	Glu	Leu	Ala	Val	Gln	Leu
	370					375					380				
Asp	Val	Met	Lys	Lys	Asp	Trp	Glu	Glu	Arg	Leu	Lys	Asp	Asn	Arg	Glu
385					390					395					400
Thr	Val	Asp	Glu	Glu	Glu	Ile	Ala	Asn	Val	Val	Ser	Met	Met	Ser	Gly
			405						410					415	
Ile	Pro	Val	Gln	Arg	Met	Ala	Gln	Ala	Glu	Gly	Ile	Lys	Leu	Ala	Gly
		420						425					430		
Met	Lys	Glu	Asp	Leu	Gln	Ser	Lys	Val	Ile	Ala	Gln	Asp	Asp	Ala	Ile
	435						440					445			
Lys	Lys	Leu	Val	Lys	Ala	Ile	Leu	Arg	Ser	Arg	Val	Gly	Leu	Lys	Asp
	450					455					460				
Pro	Asn	Lys	Pro	Ile	Gly	Thr	Phe	Met	Phe	Leu	Gly	Pro	Thr	Gly	Val
465					470					475					480
Gly	Lys	Thr	His	Leu	Ala	Lys	Glu	Leu	Ala	Lys	Tyr	Met	Phe	Gly	Ser
			485						490					495	
Ser	Asp	Ala	Leu	Ile	Arg	Ile	Asp	Met	Ser	Glu	Phe	Met	Glu	Lys	Phe

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      500      505      510
Thr Val Ser Arg Leu Val Gly Ala Pro Pro Gly Tyr Val Gly Tyr Glu
      515      520      525
Glu Gly Gly Gln Leu Thr Glu Lys Val Arg Arg Lys Pro Tyr Ser Ile
      530      535      540
Val Leu Leu Asp Glu Ile Glu Lys Ala His Pro Asp Val Phe Asn Leu
545      550      555      560
Leu Leu Gln Val Met Asp Glu Gly Arg Leu Thr Asp Ser Tyr Gly Arg
      565      570      575
Met Val Asp Phe Lys Asn Thr Val Ile Ile Met Thr Ser Asn Ile Gly
      580      585      590
Thr Arg Gln Leu Lys Glu Phe Gly Arg Gly Val Gly Phe Ala Thr Gln
      595      600      605
Ser Arg Leu Asp Asp Lys Glu Phe Ser Arg Ser Val Ile Gln Lys Ala
      610      615      620
Leu Asn Lys Ser Phe Ala Pro Glu Phe Ile Asn Arg Val Asp Glu Ile
625      630      635      640
Ile Thr Phe Asp Gln Leu Ser Leu Glu Ala Ile Thr Lys Ile Ile Asp
      645      650      655
Ile Glu Leu Lys Gly Leu Tyr Asn Arg Ile Glu Ser Ile Gly Tyr Lys
      660      665      670
Leu Val Ile Glu Asp Lys Ala Lys Gln Phe Val Ala Ser Lys Gly Tyr
      675      680      685
Asp Val Gln Tyr Gly Ala Arg Pro Leu Lys Arg Ala Ile Gln Thr Tyr
      690      695      700
Leu Glu Asp Gly Leu Ser Glu Leu Ile Ile Ser Ala Asp Leu Asn Glu
705      710      715      720
Gly Asp Thr Ile Thr Val Ser Leu Asn Glu Glu Lys Gly Glu Leu Glu
      725      730      735
Met Lys Asn Glu Ala Lys Thr Ala Glu
      740      745

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<210> 5504  
 <211> 238  
 <212> PRT  
 <213> B.fragilis

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<400> 5504
Ser Lys Ser Ser Gly Leu Tyr Trp Asn Arg Gln Thr Tyr Lys His Trp
1      5      10      15
Ile Trp Tyr Asp Asn Ser Lys Leu Ile Gln Lys Arg Pro Lys Met Ile
      20      25      30
Glu Ser Ile Thr Ser Ile Gly Ile Phe Ile Asp Gly Gly Tyr Phe Thr
      35      40      45
Lys Ile Asn Gln Ala Leu Glu Glu Lys Leu Ser Leu Asn Ile Asp Ile
      50      55      60
Thr Phe Phe Phe Lys Phe Ile Lys Glu Lys Ile Ala Tyr Glu Tyr Asn
65      70      75      80
Leu Asn Thr Glu Phe Cys Gln Ile Thr Glu Ser His Tyr Phe Arg Gly
      85      90      95
Arg Tyr Arg Val Asn Asp Ala Asn Asn Lys His Leu Leu Phe Ser Glu
      100      105      110
Arg Lys Phe Glu Asp Ser Leu Ile Glu Asn Asp Val Ile Phe His Tyr
      115      120      125
Lys His Leu Arg Glu Ile Gln Lys Glu Gly Glu Ile Asn Val Ile Glu
      130      135      140
Lys Gly Ile Asp Val Trp Phe Ala Leu Glu Ala Tyr Glu Leu Ser Leu
145      150      155      160
Phe Arg Lys Phe Asp Phe Val Ile Leu Ile Thr Gly Asp Ala Asp His

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<210> 5505
<211> 256
<212> PRT
<213> B.fragilis
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<210> 5506
<211> 265
<212> PRT
<213> B.fragilis
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<400> 5506
Lys Gly Ala Leu Ser Met Glu Leu Arg Thr Val Asn Val Thr Arg Tyr
1      5      10      15
Ile Met Pro Leu Arg Glu Gly Gly Ser Leu Pro Ala Leu Ala Glu Ala
      20      25      30

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Asp Asp Ser Phe Lys Tyr Val Val Lys Phe Arg Gly Ala Gly His Gly  
 35 40 45  
 Thr Lys Ala Leu Ile Ala Glu Leu Ile Gly Gly Glu Val Ala Arg Val  
 50 55 60  
 Leu Gly Phe Arg Val Pro Glu Leu Val Phe Leu Asn Leu Asp Glu Ala  
 65 70 75 80  
 Phe Gly Arg Ser Glu Gly Asp Glu Glu Ile Gln Asp Leu Leu Gln Gly  
 85 90 95  
 Ser Arg Gly Leu Asn Met Gly Leu His Phe Leu Ser Gly Ala Leu Pro  
 100 105 110  
 Phe Asp Pro Val Val Thr Glu Val Asp Glu Lys Leu Ala Ser Gln Val  
 115 120 125  
 Val Trp Leu Asp Ala Leu Leu Thr Asn Val Asp Arg Thr Val Lys Asn  
 130 135 140  
 Thr Asn Met Leu Met Trp His Lys Glu Leu Trp Leu Ile Asp His Gly  
 145 150 155 160  
 Ala Ser Leu Phe Phe His His Ser Trp Val Asn Trp His Lys His Ala  
 165 170 175  
 Leu Ser Ser Phe Thr Gln Val Lys Asp His Ala Leu Leu Pro Leu Ala  
 180 185 190  
 Gly Lys Leu Asp Glu Val Asp Ala Glu Phe Arg Lys Leu Leu Thr Ser  
 195 200 205  
 Glu Lys Ile Arg Glu Ile Val Asp Leu Ile Pro Asp Ser Trp Ile Glu  
 210 215 220  
 Trp Arg Asp Lys Asp Glu Thr Pro Gln Asp Ile Arg Asp Ile Tyr Tyr  
 225 230 235 240  
 Arg Phe Leu Lys Glu Arg Ile Glu His Ser Glu Ile Phe Val Lys Glu  
 245 250 255  
 Ala Gln His Ala Arg Lys Ala Tyr Leu  
 260 265

<210> 5507

<211> 146

<212> PRT

<213> B.fragilis

<400> 5507

Ser Val Phe Thr Met Asn Met Ser Ile Thr Lys Arg Asn Phe Leu Gly  
 1 5 10 15  
 Tyr Leu Ser Ile Leu Thr Leu Val Gly Gly Gly Leu Gly Ala Leu Val  
 20 25 30  
 Leu His Tyr Leu Glu Pro Gly His Tyr Phe Gly Gly Tyr Pro Leu Ile  
 35 40 45  
 Pro Val Tyr Phe Tyr Ile Phe Gly Val Phe Tyr Ile Tyr Met Phe Asp  
 50 55 60  
 Ala Cys Arg Arg His Ala Pro Glu Lys Met Val Met Leu Phe Leu Val  
 65 70 75 80  
 Ala Lys Val Leu Lys Met Ile Val Ser Val Phe Leu Leu Ile Ile Tyr  
 85 90 95  
 Cys Val Ala Val Pro Asp Ser Ala Ile Glu Phe Leu Leu Thr Phe Leu  
 100 105 110  
 Ala Phe Tyr Leu Gly Tyr Leu Ile Tyr Glu Ser Trp Phe Phe Phe Val  
 115 120 125  
 Phe Glu Trp Asn Gln Lys Leu Thr Lys Lys Ser Lys Lys Tyr Glu Thr  
 130 135 140  
 Val Ala  
 145

<210> 5508

<211> 461  
 <212> PRT  
 <213> B.fragilis

<400> 5508

Lys	Tyr	Val	Thr	Leu	His	Tyr	Met	Ala	Gln	Gln	Thr	Asp	Pro	Arg	Ile	1	5	10	15
Leu	Gly	Thr	Glu	Pro	Ile	Gly	Lys	Leu	Leu	Leu	Gln	Tyr	Ser	Ile	Pro	20	25	30	
Ala	Ile	Ile	Gly	Met	Thr	Ile	Thr	Ser	Leu	Tyr	Asn	Ile	Ile	Asp	Ser	35	40	45	
Ile	Phe	Ile	Gly	His	Gly	Val	Gly	Pro	Met	Ala	Ile	Ser	Gly	Leu	Ala	50	55	60	
Ile	Thr	Phe	Pro	Leu	Met	Asn	Leu	Val	Val	Ala	Phe	Cys	Val	Leu	Ile	65	70	75	80
Ser	Ala	Gly	Gly	Ala	Thr	Ile	Ser	Ser	Ile	Arg	Leu	Gly	Gln	Lys	Asp	85	90	95	
Ile	Lys	Gly	Ala	Thr	Asp	Val	Leu	Gly	Asn	Thr	Leu	Met	Leu	Cys	Leu	100	105	110	
Thr	Asn	Ala	Val	Leu	Phe	Gly	Gly	Leu	Ala	Tyr	Leu	Phe	Leu	Asp	Pro	115	120	125	
Ile	Leu	Phe	Phe	Phe	Gly	Ala	Ser	Thr	Gly	Thr	Leu	Pro	Tyr	Ala	Arg	130	135	140	
Asp	Phe	Met	Gln	Val	Ile	Leu	Leu	Gly	Thr	Pro	Ile	Thr	Tyr	Thr	Met	145	150	155	160
Ile	Gly	Leu	Asn	Asn	Val	Met	Arg	Ala	Thr	Gly	Tyr	Pro	Lys	Lys	Ala	165	170	175	
Met	Leu	Thr	Ser	Leu	Val	Thr	Val	Ile	Ala	Asn	Val	Ile	Ile	Ala	Pro	180	185	190	
Val	Phe	Ile	Phe	His	Phe	Gly	Trp	Gly	Ile	Arg	Gly	Ala	Ala	Met	Ala	195	200	205	
Thr	Val	Leu	Ser	Gln	Phe	Ile	Gly	Met	Ile	Trp	Val	Val	Asn	His	Phe	210	215	220	
Arg	Asn	Lys	Glu	Ser	Phe	Val	His	Phe	Met	Pro	Gly	Phe	Trp	Lys	Met	225	230	235	240
Lys	Lys	Arg	Ile	Ile	Gly	Ser	Ile	Phe	Ser	Ile	Gly	Met	Ser	Pro	Phe	245	250	255	
Ala	Met	Asn	Val	Thr	Ala	Cys	Ile	Ile	Val	Ile	Leu	Ile	Asn	Asn	Ser	260	265	270	
Leu	Gln	Lys	Tyr	Gly	Gly	Asp	Met	Ala	Ile	Gly	Ala	Tyr	Gly	Ile	Ile	275	280	285	
Asn	Arg	Leu	Leu	Met	Leu	Tyr	Val	Met	Val	Val	Met	Gly	Leu	Thr	Met	290	295	300	
Gly	Met	Gln	Pro	Ile	Val	Gly	Tyr	Asn	Tyr	Gly	Ala	Gln	Lys	Ile	Asp	305	310	315	320
Arg	Val	Lys	His	Thr	Leu	Arg	Leu	Gly	Ile	Ile	Val	Gly	Val	Leu	Ile	325	330	335	
Thr	Ser	Ser	Gly	Phe	Ile	Ile	Cys	Glu	Leu	Phe	Pro	His	Thr	Val	Ser	340	345	350	
Ala	Ile	Phe	Thr	Asp	Ser	Asp	Glu	Leu	Ile	Asp	Met	Ala	Ser	Ser	Gly	355	360	365	
Leu	Arg	Ile	Cys	Thr	Leu	Met	Phe	Pro	Phe	Val	Gly	Ala	Gln	Ile	Val	370	375	380	
Ile	Ser	Asn	Phe	Phe	Gln	Ser	Ile	Gly	Met	Ala	Lys	Ile	Ser	Ile	Phe	385	390	395	400
Leu	Ser	Leu	Ser	Arg	Gln	Leu	Val	Tyr	Leu	Leu	Pro	Gly	Leu	Leu	Leu	405	410	415	
Leu	Pro	Pro	Leu	Tyr	Gly	Val	Lys	Gly	Val	Trp	Ile	Ser	Met	Pro	Val	420	425	430	

## 2300

Ser Asp Gly Leu Ala Phe Val Thr Ala Val Val Ile Leu Met Val Tyr  
 435 440 445  
 Ile Lys Lys Val Lys Glu Lys Thr Ser Gly Gln Lys Leu  
 450 455 460

<210> 5509  
 <211> 330  
 <212> PRT  
 <213> B.fragilis

<400> 5509  
 Thr Glu Val Thr Met Asn Arg Phe Ile Gly Tyr Ile Gln Val Ala Cys  
 1 5 10 15  
 Cys Cys Leu Leu Leu Cys Ala Cys Cys Val Arg Asp Gly Met Asp Glu  
 20 25 30  
 Asp Cys Asn Cys Tyr Val Arg Phe Val Tyr Asp Tyr Asn Leu Gln Tyr  
 35 40 45  
 Ile Asp Leu Ile His Lys Gln Ala Thr Lys Met Asn Leu Tyr Val Phe  
 50 55 60  
 Asp Glu Lys Gly Val Phe Val Thr Glu Ser Glu Glu Glu Ser Gly Ala  
 65 70 75 80  
 Cys Ala Pro Asp Tyr Leu Met Thr Leu Pro Gly Ala Met Ala Gly Arg  
 85 90 95  
 Arg Tyr Ile Phe Val Ala Trp Ser Gly Leu Tyr Asp Lys Ser Tyr Asp  
 100 105 110  
 Lys Val Thr Leu Thr Pro Gly Val Ser Thr Leu Glu Asp Leu Glu Val  
 115 120 125  
 Ser Val Asn Asn Leu Lys Thr Arg Ile Gly Gly Gly Val Val Asp Arg  
 130 135 140  
 Glu Leu His Leu Leu Trp His Gly Lys Gln Thr Glu Val Ser Pro Gln  
 145 150 155 160  
 Tyr Asn Asn Asp Ile Thr Thr Val Ser Leu Leu Lys Asn Thr Lys Lys  
 165 170 175  
 Phe Arg Ile Ile Met Gln Met Leu Asp Asp Ser Ser Ile His Val Asp  
 180 185 190  
 Asp Tyr Asp Phe Arg Ile Ile Ser Pro Asn Gly Arg Tyr Asn His Glu  
 195 200 205  
 Asn Gly Leu Leu Gly Asp Glu Thr Asp Glu Lys Val Glu Tyr Thr Ala  
 210 215 220  
 Tyr His Thr Glu Asp Asp Pro Glu Thr Gly Ala Ile Ala Lys Leu Asn  
 225 230 235 240  
 Thr Leu Arg Leu Met Thr Asp Thr Glu Asn Arg Leu Val Ile Thr His  
 245 250 255  
 Lys Ser Ser Gly Asn Val Ile Leu Asp Ile Pro Leu Asn Lys Tyr Leu  
 260 265 270  
 Asn Ala Leu Arg Leu Gln Gln Tyr Ala Asp Ile Pro Leu Gln Glu Tyr  
 275 280 285  
 Leu Asp Arg Ala Asp Lys His Gly Ile Ile Leu Phe Phe Lys Gly Met  
 290 295 300  
 Asp Gly Asn Gly Asn Tyr Ile Ser Val Asp Val Gln Ile Asn Gly Trp  
 305 310 315 320  
 Leu Ile Arg Lys Gln Glu Val Asp Gly Val  
 325 330

<210> 5510  
 <211> 768  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5510

Lys Asp Lys Thr Met Lys Gln Phe His Tyr Thr Ile Gln Thr Leu Ile  
 1 5 10 15  
 Arg Asp Arg Arg Ser Cys Val Ile Lys Val Ile Ser Leu Ser Leu Gly  
 20 25 30  
 Leu Leu Val Ser Ile Ile Leu Phe Ser Arg Val Ala Phe Glu Leu Ser  
 35 40 45  
 Tyr Asp Asn Cys Phe Gln Asp Val Asp Asn Leu Tyr Ile Val Lys Thr  
 50 55 60  
 Glu Trp Ile Lys Asp Gly Val Ile Lys Gly Asn Ala Gly Ser Tyr Thr  
 65 70 75 80  
 Leu Ile Pro Ile Ala Ser Thr Val Ala Glu Glu Phe Pro Lys Glu Val  
 85 90 95  
 Glu Ser Ala Val Cys Ser Ser Ile Ser Phe Glu Ala Ile Phe Lys Ile  
 100 105 110  
 Gly Asn Arg Lys Met Asn Lys Ser Phe Ile Leu Ser Asp Ser Leu Tyr  
 115 120 125  
 Phe Arg Thr Met Gly Ile Glu Val Ile Ser Gly Asn Pro Asn Asp Leu  
 130 135 140  
 Thr Asn Pro Asp Val Leu Phe Leu Ser Gln Ser Val Ala Arg Glu Ala  
 145 150 155 160  
 Phe Gly Glu Glu Asn Pro Ile Gly Lys Thr Leu His Met Met Val Trp  
 165 170 175  
 Gly Thr Pro Val Glu Thr Leu Val Lys Gly Val Phe Ala Asp Leu Pro  
 180 185 190  
 Tyr Asn Val Ser Leu Glu Arg His Glu Ala Val Leu Ser Phe Ala Ser  
 195 200 205  
 His Ser Lys Tyr Gly Trp Gly Arg Pro Gly Trp Thr Ser Gly Gly Asn  
 210 215 220  
 Tyr Asn Ala Phe Ile Arg Leu Lys Asp Gly Glu Arg Ser Ala Asp Val  
 225 230 235 240  
 Ile Asn Thr Asp Ile Asp Lys Val Ile Ala Lys His Ile Pro Ser Asp  
 245 250 255  
 Met Asn Met His Leu His Met Ile Val Val Pro Leu Arg Thr Ile His  
 260 265 270  
 Leu Glu His Ser Asp Val Lys Arg Thr Ile Leu Ile Leu Ser Leu Leu  
 275 280 285  
 Gly Phe Ala Ile Leu Phe Ala Ala Thr Met Asn Tyr Val Leu Ile Phe  
 290 295 300  
 Val Ser Ser Leu Ser Gln Arg Ala Lys Gly Ile Gly Ile His Lys Cys  
 305 310 315 320  
 Asn Gly Ala Ser Asp Lys Ala Ile Phe Ser Met Phe Ile Tyr Glu Thr  
 325 330 335  
 Ala Leu Ile Ile Gly Val Ser Leu Val Leu Met Ile Ile Phe Leu Phe  
 340 345 350  
 Gln Phe Gln Glu Lys Ile Glu Glu Leu Ala Glu Val Ser Leu Ser Ser  
 355 360 365  
 Leu Phe Thr Trp His Asn Leu Trp Ala Pro Leu Ser Val Val Thr Phe  
 370 375 380  
 Leu Phe Val Ile Gly Gly Ile Leu Pro Gly Lys Ile Phe Ser Leu Ile  
 385 390 395 400  
 Pro Val Thr Gln Val Phe His Pro Tyr Ile Lys Glu Asn Arg Gly Trp  
 405 410 415  
 Lys Arg Ile Leu Leu Phe Ile Glu Phe Ala Gly Val Ala Phe Ile Phe  
 420 425 430  
 Gly Leu Met Cys Val Ala Tyr Leu Gln Cys His Tyr Ile Ile Asn Arg  
 435 440 445  
 Asp Met Gly Tyr Gln Pro Lys Gly Val Ala Ser Cys Lys His Asp Phe  
 450 455 460

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460

Ala	Glu	Pro	Asp	Asn	Ala	Arg	Asn	Asn	Leu	Lys	Ser	Leu	Pro	Tyr	Val
465					470					475					480
Glu	Gly	Val	Ala	Ser	Ile	Arg	Gly	Ser	Met	Thr	Trp	Phe	Gly	Asn	Arg
				485					490					495	
Glu	Val	Thr	Asp	Glu	Gly	Gly	Lys	Val	Leu	Phe	Thr	Pro	Arg	Cys	Ala
			500					505					510		
Ala	Phe	Asp	Lys	Asp	Phe	Val	Pro	Leu	Leu	Gly	Leu	His	Ile	Lys	Thr
		515					520					525			
Gly	Arg	Asn	Phe	Thr	Gly	Glu	Arg	Gln	Phe	Leu	Val	Asn	Gln	Pro	Tyr
	530					535					540				
Val	Glu	Lys	Met	Gly	Trp	Lys	Gly	Ser	Gly	Val	Gly	Glu	Ile	Val	Pro
545					550					555					560
Asn	Arg	Gly	Thr	Val	Val	Gly	Val	Leu	Ala	Pro	Phe	Cys	Cys	Gly	Val
				565					570					575	
Leu	Pro	Ala	Asp	Asn	Glu	Pro	Leu	Glu	Ile	Glu	Tyr	Gly	Thr	Asn	Leu
			580					585					590		
Arg	Asn	Val	His	Val	Arg	Leu	Lys	Glu	Pro	Phe	Thr	Glu	Asn	Leu	His
	595						600					605			
Arg	Leu	Asn	Asn	Glu	Met	Lys	Lys	Ile	Tyr	Pro	Gln	Glu	Asp	Ile	Glu
	610					615					620				
Phe	Arg	Ser	Leu	Glu	Gln	Asp	Leu	Glu	Arg	Tyr	Tyr	Arg	Pro	Thr	Ile
625					630					635					640
Ile	Phe	Arg	Asp	Ala	Thr	Phe	Leu	Ala	Phe	Ile	Thr	Ile	Leu	Phe	Ile
				645					650					655	
Thr	Leu	Met	Gly	Leu	Ile	Gly	Tyr	Ile	Asn	Asp	Glu	Val	Arg	Arg	Arg
			660					665					670		
Ser	Lys	Glu	Ile	Ala	Ile	Arg	Lys	Ile	Asn	Gly	Ala	Glu	Ala	Arg	Ser
	675						680					685			
Ile	Leu	Phe	Leu	Leu	Ser	Lys	Asp	Ile	Phe	Trp	Val	Ala	Ile	Leu	Ser
	690					695					700				
Val	Ala	Ile	Gly	Thr	Tyr	Gly	Ala	Tyr	Tyr	Met	Ser	Leu	Leu	Trp	Ile
705					710					715					720
Ser	Gln	Phe	Glu	Asp	Thr	Ile	Cys	Val	Tyr	Ala	Gly	Trp	Tyr	Val	Val
				725					730					735	
Thr	Ala	Ile	Cys	Leu	Leu	Val	Phe	Ile	Phe	Val	Phe	Ile	Ile	Gly	Arg
			740					745						750	
Ser	Trp	His	Ile	Ala	Asn	Glu	Asn	Pro	Val	Asn	Ser	Ile	Lys	Ser	Glu
		755					760					765			

&lt;210&gt; 5511

&lt;211&gt; 404

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (99)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 5511

Arg	Thr	Ala	Thr	Ser	Arg	Thr	Arg	Lys	Asn	Asn	Ile	Asn	Cys	Arg	Met
1				5					10					15	
Ala	Thr	Lys	Leu	Trp	Thr	Leu	His	Phe	Met	Arg	Ile	Cys	Leu	Ala	Asn
			20					25					30		
Leu	Leu	Leu	Phe	Ile	Ser	Leu	Tyr	Leu	Leu	Tyr	Pro	Val	Leu	Pro	Val
			35				40					45			
Met	Met	Ala	Ser	Arg	Leu	Gly	Val	Pro	Val	Ser	Gln	Thr	Gly	Val	Ile
	50					55					60				
Phe	Ile	Phe	Phe	Thr	Leu	Ala	Met	Phe	Phe	Ile	Gly	Pro	Phe	His	Ala

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65              70              75              80
Tyr Leu Val Asp Val Tyr Lys Arg Lys Tyr Ile Cys Met Leu Ser Phe
      85              90              95
Gly Gly Xaa Gly Cys Ser Asn Gln Pro Gly Tyr Thr Leu Val Gln Asn
      100              105              110
Ala Thr His Leu Leu Met Leu Cys Ile Val Gln Gly Leu Ser Phe Gly
      115              120              125
Met Ala Ala Thr Ala Gly Ile Thr Leu Ala Ile Asp Ile Thr Asn Ser
      130              135              140
Thr Phe Arg Ser Ala Gly Asn Val Val Phe Ser Trp Ala Ala Arg Leu
      145              150              155              160
Gly Met Ile Ile Gly Ala Ala Leu Gly Val Tyr Leu Phe Arg Thr His
      165              170              175
Gly Phe Glu Thr Leu Leu Tyr Val Ala Val Ala Leu Gly Ala Leu Gly
      180              185              190
Ile Leu Phe Val Ser Arg Val Tyr Val Pro Phe Arg Ala Pro Ile Gly
      195              200              205
Met Lys Val Cys Ser Met Asp Arg Phe Leu Leu Leu Arg Gly Leu Ile
      210              215              220
Pro Ala Phe Asn Leu Ile Leu Ile Ala Phe Ile Pro Gly Leu Met Leu
      225              230              235              240
Pro Val Leu Ala Gly Ala Pro Ser Asp Val Pro Val Gly Gly Glu Thr
      245              250              255
Val Pro Phe Phe Ala Leu Val Gly Cys Gly Phe Leu Leu Ser Val Leu
      260              265              270
Ile Val Lys Leu Phe Phe Arg Tyr Asp Asn Lys Met Trp Leu Gln Ile
      275              280              285
Val Val Gly Leu Val Thr Val Ile Gly Ser Met Ala Met Leu Phe Ser
      290              295              300
Pro Glu Thr Ser Trp Asn Ala Pro Ala Ala Val Leu Met Gly Leu Gly
      305              310              315              320
Leu Gly Leu Val Thr Pro Glu Phe Leu Met Met Phe Val Lys Leu Ser
      325              330              335
Gln His Cys Gln Arg Gly Thr Ala Asn Thr Thr His Leu Leu Ala Trp
      340              345              350
Glu Leu Gly Val Gly Leu Gly Ile Ala Ser Ala Cys His Leu His Leu
      355              360              365
Thr Ala Asn Glu Gln Ala Val Tyr Arg Val Gly Leu Leu Ser Ala Ile
      370              375              380
Val Ser Leu Ala Phe Phe Val Leu Leu Thr Tyr Pro Tyr Phe Lys Arg
      385              390              395              400
Lys Lys Val Arg

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&lt;210&gt; 5512

&lt;211&gt; 466

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5512

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Asn Ala Arg Thr Leu Pro Ala Pro Trp Trp Lys Thr Asp Pro Thr Thr
1      5      10      15
Ser Gly Arg Thr Glu Glu Gln Val Val Asn His Val Arg Met Val Leu
      20      25      30
Tyr Glu Thr Lys Asn Asn Thr Val Arg Tyr Ser Trp Asp Leu Asn Val
      35      40      45
Ser Thr Asp Gly Met Asn Glu Phe Thr Gly Gly Asp Val Val Arg Gly
      50      55      60
Glu Asp Val Pro Ser Ala Thr Pro Thr Val Ser Arg Phe Val Thr Val

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65				70					75				80
Gly	Arg	Glu	Val	Val	Lys	Gln	Asp	Tyr	Glu	Leu	Leu	Ile	Leu
				85					90				95
Pro	Pro	Gly	Glu	Leu	Leu	Glu	Ile	Thr	Glu	Gln	Gly	Asn	Pro
			100					105				110	
Tyr	Leu	Ser	Arg	Ala	Ala	Asn	Met	Thr	Lys	Glu	Ser	Leu	Ile
		115					120					125	
Tyr	Gly	Ile	Ala	Ala	Asp	Asn	Asn	Phe	Tyr	Met	Thr	Asn	His
	130					135					140		
Leu	Ile	Phe	Val	Pro	Glu	Val	Glu	Leu	Arg	Asp	Asn	Gln	Arg
145					150				155				160
Glu	Glu	Asn	Pro	Val	Arg	Val	Glu	Val	Glu	Arg	Ala	Val	Ala
				165					170				175
Val	Val	Ser	Gly	Val	Pro	Glu	Val	Val	Pro	His	Gly	Asp	Arg
			180					185				190	
Asn	Leu	Lys	Trp	Gly	Leu	Asp	Val	Thr	Asn	Met	Tyr	Thr	Tyr
	195						200					205	
Arg	Lys	Met	Thr	Phe	Ile	Ala	Asn	Ser	Gly	Gly	Val	Pro	Asn
	210					215					220		
Glu	Gln	Leu	Asn	Ala	Gly	Tyr	Arg	Glu	Glu	Arg	Tyr	Ala	Glu
225					230					235			240
Asn	Phe	Thr	Arg	Phe	Ser	Ser	Trp	Asn	Gly	Gly	Asn	Pro	Val
				245					250				255
Phe	Glu	Tyr	Leu	Ser	Gly	Thr	Pro	Glu	Leu	Ser	Lys	Asn	Phe
			260					265					270
Tyr	Asp	Tyr	Thr	Leu	Glu	Asn	Thr	Met	Asp	Ala	Ala	Asp	Gln
	275						280					285	
Asp	Val	Thr	Thr	Arg	Val	Val	Ile	Ser	Gly	Thr	Tyr	Thr	Pro
	290					295					300		
Phe	Gly	Ser	Val	Ala	Thr	Arg	Asn	Gly	Gly	Gly	Ile	Ser	Phe
305					310				315				320
Phe	Lys	Gly	Asn	Ala	Ile	Arg	Val	Glu	Ala	Met	Arg	Asp	Met
			325						330				335
Asp	Arg	Gly	Gln	Ile	Pro	Gln	Glu	Leu	Arg	Asp	Ala	Gly	Leu
			340					345				350	
Ala	Ile	Glu	Asn	Val	Leu	Ala	Trp	Asn	Pro	Asn	Ala	Phe	Asn
	355						360					365	
Thr	Val	Ser	Phe	Ser	Glu	Gly	Gly	Ile	His	Phe	Tyr	Tyr	Gln
	370					375					380		
Cys	Tyr	Tyr	Thr	Val	Leu	Ile	Arg	His	Phe	Ser	Asn	Asn	Met
385					390					395			400
Val	Leu	Met	Gly	Tyr	Gly	Arg	Tyr	Gly	Val	Val	Arg	Asn	Asn
			405						410				415
Gln	Leu	Ser	Ile	Asn	Lys	Ile	Ile	Gly	Pro	Gly	Gln	Pro	Val
			420					425				430	
Pro	Pro	Gly	Thr	Asp	Pro	Asp	Asp	Glu	Asp	Thr	Ser	Trp	Ile
		435					440					445	
Asp	Val	Asn	Ile	Met	Arg	Trp	Tyr	Ile	Arg	Asn	Gln	Asn	Val
	450					455					460		
Leu	Leu												
465													

&lt;210&gt; 5513

&lt;211&gt; 464

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5513

Gly Asn Val Ala Asn Phe Val Ala Asp Lys Leu Leu Phe Val Phe Asn



1		5		10		15								
Ile	Leu	Leu	Thr	Lys	Met	Gly	Thr	Ile	Ile	Val	Asp	Asp	Asn	Lys
		20						25				30		
Gly	Val	Leu	Thr	Ala	Val	Gln	Leu	Leu	Lys	Asn	His	Phe	Ser	Lys
		35					40				45			
Val	Ile	Thr	Leu	Ser	Ser	Pro	Val	Ser	Leu	Ser	Thr	Val	Leu	Arg
		50				55					60			
Glu	Asn	Pro	Glu	Val	Val	Leu	Leu	Asp	Met	Asn	Phe	Thr	Ser	Gly
65				70						75				80
Asn	Asn	Gly	Asn	Glu	Gly	Leu	Phe	Trp	Leu	His	Glu	Ile	Lys	Arg
			85					90						95
Tyr	Arg	Asp	Leu	Pro	Val	Val	Leu	Phe	Thr	Ala	Tyr	Ala	Asp	Ile
		100						105					110	Asp
Leu	Ala	Val	Arg	Gly	Ile	Lys	Glu	Gly	Ala	Ser	Asp	Phe	Val	Val
		115					120					125		Lys
Pro	Trp	Asp	Asn	Gln	Lys	Leu	Leu	Glu	Thr	Leu	Leu	Asn	Ala	Ala
	130					135					140			Ser
Gln	Ala	Lys	Asp	Gly	Lys	Lys	Lys	Asn	Arg	Lys	Lys	Glu	Ser	Ser
145				150					155					Pro
Val	Ser	Ala	Met	Tyr	Trp	Gly	Glu	Ser	Ser	Ala	Met	Gln	Gln	Leu
			165					170						Arg
Thr	Leu	Ile	Glu	Lys	Val	Ala	Thr	Thr	Asn	Ala	Asn	Ile	Leu	Ile
		180					185					190		Thr
Gly	Glu	Asn	Gly	Thr	Gly	Lys	Glu	Met	Leu	Ala	Arg	Glu	Ile	His
		195					200					205		Ala
Leu	Ser	Pro	Arg	Ser	Ala	Glu	Ser	Met	Ile	Ser	Val	Asp	Met	Gly
		210				215					220			Ala
Ile	Thr	Glu	Ser	Leu	Phe	Glu	Ser	Glu	Leu	Phe	Gly	His	Val	Lys
225				230					235					Gly
Ser	Phe	Thr	Asp	Ala	His	Ala	Asp	Arg	Thr	Gly	Lys	Phe	Glu	Ala
			245					250						Ala
Asp	Arg	Ser	Ser	Leu	Phe	Leu	Asp	Glu	Ile	Gly	Asn	Leu	Pro	Phe
		260					265					270		His
Leu	Gln	Ala	Lys	Leu	Leu	Thr	Ala	Ile	Gln	Gln	Arg	Ser	Ile	Val
		275				280						285		Arg
Val	Gly	Ser	Asn	Gln	Ser	Ile	Pro	Val	Asp	Ile	Arg	Leu	Ile	Cys
	290			295					300					Ala
Thr	Asn	Arg	Asn	Leu	Gln	Glu	Met	Val	Asp	Lys	Gly	Leu	Phe	Arg
305				310					315					Glu
Asp	Leu	Leu	Tyr	Arg	Ile	Asn	Thr	Ile	His	Val	Glu	Ile	Pro	Pro
			325					330					335	Leu
Arg	Lys	Arg	Lys	Glu	Asp	Ile	Val	Pro	Leu	Ala	Glu	Arg	Phe	Ile
		340					345					350		Ala
Arg	Phe	Cys	Lys	Gln	Tyr	Asp	Lys	Ala	Ser	Ile	Ser	Leu	Ser	Pro
	355					360						365		Ala
Ala	Cys	Glu	Lys	Leu	Thr	Ala	His	Ala	Trp	Tyr	Gly	Asn	Ile	Arg
	370					375					380			Glu
Leu	Glu	His	Ser	Ile	Glu	Lys	Ala	Val	Ile	Ile	Ser	Asp	Gly	Glu
385				390					395					Thr
Ile	Pro	Ala	Glu	Met	Phe	Gln	Leu	Val	Gln	Lys	Thr	Glu	Asn	Pro
			405					410					415	Glu
Thr	Glu	Thr	Ser	Thr	Leu	Glu	Asp	Met	Glu	Lys	Ala	Met	Ile	Arg
		420					425					430		Lys
Ala	Leu	Asp	Lys	Cys	Gly	Gly	Asn	Leu	Ser	Ala	Val	Ala	Ala	Gln
	435					440						445		Leu
Gly	Ile	Thr	Arg	Gln	Thr	Leu	Tyr	Asn	Lys	Met	Lys	Lys	Phe	Gly
	450					455					460			Leu

<211> 409  
 <212> PRT  
 <213> B.fragilis

<400> 5514

Lys	Cys	Tyr	Phe	Cys	Ser	Leu	Asn	Asn	Ile	Ile	Leu	Phe	Tyr	Met	Asp
1				5					10					15	
Ser	Asn	His	Leu	Ser	Pro	Leu	Arg	Lys	Gly	Val	Val	Gly	Val	Gln	Phe
			20					25					30		
Leu	Phe	Val	Ala	Phe	Gly	Ala	Thr	Val	Leu	Val	Pro	Leu	Leu	Val	Gly
		35					40					45			
Leu	Asp	Pro	Ser	Thr	Ala	Leu	Phe	Thr	Ala	Gly	Ile	Gly	Thr	Leu	Leu
	50					55					60				
Phe	His	Leu	Val	Thr	Lys	Gly	Lys	Val	Pro	Ile	Phe	Leu	Gly	Ser	Ser
65					70					75				80	
Phe	Ala	Phe	Ile	Ala	Pro	Ile	Ile	Lys	Ala	Thr	Glu	Leu	Tyr	Gly	Leu
				85					90					95	
Ala	Gly	Thr	Leu	Ser	Gly	Met	Val	Gly	Val	Ala	Met	Val	Tyr	Phe	Val
			100					105					110		
Met	Ser	Ala	Leu	Val	Lys	Trp	Gln	Gly	Ile	Arg	Leu	Ile	Glu	Arg	Leu
		115					120					125			
Phe	Pro	Pro	Val	Val	Ile	Gly	Pro	Val	Ile	Ile	Leu	Ile	Gly	Leu	Ser
	130					135					140				
Leu	Ala	Gly	Thr	Gly	Val	Asn	Met	Ala	Lys	Glu	Asn	Trp	Thr	Leu	Ala
145					150					155				160	
Leu	Leu	Ser	Leu	Phe	Thr	Ala	Val	Ile	Val	Ser	Ile	Arg	Ala	Lys	Gly
				165					170					175	
Leu	Leu	Lys	Leu	Ile	Pro	Ile	Phe	Cys	Gly	Ile	Ile	Val	Gly	Tyr	Ile
			180					185					190		
Ala	Ala	Leu	Ile	Phe	Tyr	Asp	Val	Asp	Met	Ser	Gly	Val	Arg	Asn	Ala
		195					200					205			
Ala	Trp	Leu	Gly	Phe	Pro	Gln	Phe	Val	Phe	Pro	Gln	Phe	Ser	Trp	Glu
	210					215					220				
Pro	Ile	Leu	Phe	Met	Met	Pro	Val	Ala	Ile	Ala	Pro	Val	Ile	Glu	His
225				230						235				240	
Ile	Gly	Asp	Val	Tyr	Val	Val	Asn	Thr	Val	Thr	Gly	Lys	Asp	Tyr	Val
			245						250					255	
Lys	Asp	Pro	Gly	Leu	His	Arg	Thr	Leu	Gly	Asp	Gly	Leu	Ala	Cys	
			260					265				270			
Leu	Cys	Ala	Gly	Leu	Leu	Gly	Gly	Pro	Pro	Val	Thr	Thr	Tyr	Ser	Glu
		275				280					285				
Val	Thr	Gly	Ala	Met	Ser	Leu	Thr	Lys	Val	Thr	Asn	Pro	Gln	Val	Ile
	290					295					300				
Arg	Ile	Ala	Ala	Ile	Thr	Ala	Ile	Leu	Phe	Ser	Val	Ile	Gly	Lys	Val
305					310				315					320	
Ser	Ala	Leu	Leu	Lys	Ser	Ile	Pro	Ser	Ala	Val	Leu	Gly	Gly	Ile	Met
			325					330						335	
Leu	Leu	Leu	Phe	Gly	Thr	Ile	Ala	Cys	Ala	Gly	Ile	Ala	Asn	Leu	Val
			340				345					350			
Asn	Asn	Cys	Ile	Asp	Leu	Ser	Arg	Thr	Arg	Asn	Ile	Ile	Ile	Val	Ser
	355					360					365				
Leu	Thr	Leu	Thr	Ile	Gly	Ile	Gly	Gly	Ala	Val	Leu	Ala	Trp	Gly	Glu
	370				375				380						
Phe	Ser	Leu	Ser	Gly	Ile	Gly	Leu	Ala	Ala	Leu	Val	Gly	Val	Gly	Leu
385				390					395					400	
Asn	Leu	Val	Leu	Pro	Lys	Glu	Glu	Arg							
				405											

<210> 5515

<211> 310  
 <212> PRT  
 <213> B.fragilis

<400> 5515

Thr	Pro	Tyr	Ala	Asn	Met	Gly	Arg	Trp	Ile	Ile	Leu	Leu	Trp	Trp	Arg
1				5					10					15	
Leu	Gln	Leu	Glu	Thr	Arg	Leu	His	Cys	Asn	Ile	Leu	Leu	Arg	Leu	Ala
			20					25					30		
Gly	Ala	Ala	Ile	Gly	Glu	Tyr	Phe	Arg	Asp	Thr	Gly	Arg	His	Ala	Leu
		35					40					45			
Val	Val	Tyr	Asp	Asp	Leu	Ser	Lys	Gln	Ala	Val	Ser	Tyr	Arg	Glu	Val
	50					55					60				
Ser	Leu	Ile	Leu	Arg	Arg	Pro	Ser	Gly	Arg	Glu	Ala	Tyr	Pro	Gly	Asp
65					70					75				80	
Ile	Phe	Tyr	Leu	His	Ser	Arg	Leu	Leu	Glu	Arg	Ala	Ala	Lys	Ile	Ile
				85					90					95	
Asn	Gln	Glu	Glu	Val	Ala	Arg	Glu	Met	Asn	Asp	Leu	Pro	Glu	Ser	Leu
			100					105					110		
Lys	Gly	Lys	Val	Lys	Gly	Gly	Gly	Ser	Leu	Thr	Ala	Leu	Pro	Ile	Ile
		115					120						125		
Glu	Thr	Gln	Ala	Gly	Asp	Val	Ser	Ala	Tyr	Ile	Pro	Thr	Asn	Val	Ile
	130					135						140			
Ser	Ile	Thr	Asp	Gly	Gln	Ile	Phe	Leu	Asp	Thr	Asp	Leu	Phe	Asn	Gln
145					150					155					160
Gly	Asn	Arg	Pro	Ala	Ile	Asn	Val	Gly	Ile	Ser	Val	Ser	Arg	Val	Gly
				165					170					175	
Gly	Asn	Ala	Gln	Ile	Lys	Ala	Met	Lys	Lys	Val	Ala	Gly	Thr	Leu	Lys
			180					185					190		
Ile	Asp	Gln	Ala	Gln	Tyr	Arg	Glu	Leu	Glu	Ala	Phe	Ser	Lys	Phe	Ser
	195						200					205			
Gly	Asp	Met	Asp	Pro	Val	Thr	Ala	Leu	Thr	Ile	Asp	Lys	Gly	Gln	Lys
	210					215					220				
Asn	Ala	Arg	Leu	Leu	Val	Gln	Pro	Gln	Tyr	Ser	Pro	Met	Pro	Val	Glu
225					230					235					240
Lys	Gln	Ile	Ala	Ile	Leu	Tyr	Cys	Gly	Ile	His	Gly	Leu	Leu	Arg	Asn
				245					250					255	
Val	Pro	Leu	Asp	Lys	Val	Glu	Asp	Phe	Glu	Ala	Ala	Phe	Leu	Asn	Thr
			260					265					270		
Leu	Ala	Leu	Asp	His	Gln	Ala	Asp	Val	Leu	Asp	Val	Leu	Lys	Thr	Gly
		275					280					285			
Val	Ile	Asn	Asp	Glu	Val	Thr	Lys	Ala	Ile	Glu	Glu	Thr	Ala	Ala	Met
	290					295						300			
Val	Ala	Lys	Gln	Tyr	Ser										
305					310										

<210> 5516  
 <211> 292  
 <212> PRT  
 <213> B.fragilis

<400> 5516

Lys	Ile	Met	Ala	Ser	Leu	Lys	Glu	Val	Lys	Thr	Arg	Ile	Asn	Ser	Val
1				5					10					15	
Gln	Ser	Thr	Arg	Lys	Ile	Thr	Ser	Ala	Met	Lys	Met	Val	Ala	Ser	Ala
			20					25					30		
Lys	Leu	His	Lys	Ala	Gln	Gly	Ala	Ile	Glu	Asn	Met	Leu	Pro	Tyr	Gln
		35					40						45		
Arg	Lys	Leu	Asn	Lys	Ile	Leu	Thr	Asn	Phe	Leu	Ser	Ala	Asp	Leu	Pro

50		55		60
Val Glu Ser Pro Phe Cys Val Glu Arg Pro Val Lys Arg Val Ala Ile				
65	70	75	80	
Val Ala Phe Ser Ser Asn Ser Ser Leu Cys Gly Ala Phe Asn Ala Asn				
	85	90	95	
Val Leu Lys Met Phe Leu Gln Thr Val Gly Glu Tyr Arg Glu Leu Gly				
	100	105	110	
Gln Asp Asn Ile Leu Ile Tyr Pro Val Gly Lys Lys Ile Glu Glu Ala				
	115	120	125	
Val Lys Lys Leu Gly Phe Phe Pro Gln Gly Ser Tyr Gln Lys Leu Ala				
	130	135	140	
Asp Lys Pro Ser Tyr Asp Glu Ala Ala Ala Leu Ala Lys Leu Leu Met				
	145	150	155	160
Glu Leu Phe Leu Glu Lys Asn Ile Asp Arg Val Glu Leu Ile Tyr His				
	165	170	175	
His Phe Lys Ser Met Gly Val Gln Glu Leu Leu Arg Glu Arg Tyr Leu				
	180	185	190	
Pro Ile Asp Leu Ser Ala Val Gln Asn Asp Glu Glu Arg Gly Gly Val				
	195	200	205	
Val Asn Asp Tyr Ile Ile Glu Pro Ser Ala Ala Gln Leu Ile Ala Asp				
	210	215	220	
Leu Ile Pro Gln Val Leu Ser Gln Lys Ile Phe Thr Ala Ala Leu Asp				
	225	230	235	240
Ser Asn Ala Ser Glu His Ala Ala Arg Thr Leu Ala Met Gln Ile Ala				
	245	250	255	
Thr Asp Asn Ala Asn Glu Leu Ile Gln Glu Leu Thr Lys Gln Tyr Asn				
	260	265	270	
Lys Thr Arg Gln Gln Ala Ile Thr Asn Glu Leu Leu Asp Ile Val Gly				
	275	280	285	
Gly Ser Met Ala				
	290			

&lt;210&gt; 5517

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5517

Arg Lys Leu Tyr Leu Cys Ile Glu Phe Ser Cys Thr Lys Ile Lys Ile				
1	5	10	15	
Met Arg Gln Ile Lys Gly Ile Thr Ala Ile Phe Leu Cys Cys Leu Leu				
	20	25	30	
Val Ala Gly Cys Asp Leu Ile Asp Tyr His Pro Tyr Asp Val Asp Ile				
	35	40	45	
Lys Gly Glu Arg Asp Ile Asn Ala Lys Asn Ile Gln Lys Ile Glu Ala				
	50	55	60	
Lys Cys Leu Gly Lys Ser Thr Ile Arg Phe Ile Ala Met Gly Asp Ser				
	65	70	75	80
Gln Arg Trp Tyr Asp Glu Thr Val Asp Phe Val Asn Ala Val Asn Lys				
	85	90	95	
Arg Asp Asp Ile Asp Phe Val Val His Gly Gly Asp Phe Ser Asp Phe				
	100	105	110	
Gly Leu Thr Asp Glu Phe Leu Trp Gln Arg Asp Ile Met Asn Lys Leu				
	115	120	125	
Lys Val Pro Tyr Val Gly Leu Ile Gly Asn His Asp Cys Leu Gly Thr				
	130	135	140	
Gly Glu Asp Ala Phe Arg Gln Ile Phe Gly Asp Thr Asn Phe Ser Phe				
	145	150	155	160
Ile Ala Gly Gly Val Lys Phe Val Cys Leu Asn Thr Asn Ala Met Glu				

				165					170					175			
Tyr	Asp	Tyr	Ser	Glu	Pro	Ile	Pro	Asp	Phe	Asp	Tyr	Ile	Glu	Arg	Gln		
			180					185					190				
Leu	Thr	Glu	Arg	Ala	Asp	Glu	Phe	Asn	Lys	Thr	Val	Phe	Cys	Met	His		
		195					200					205					
Ala	Arg	Pro	Leu	Cys	Asp	Gln	Phe	Asn	Asn	Asn	Val	Ala	Lys	Val	Phe		
	210					215					220						
Gln	Met	Tyr	Val	Arg	Gln	Phe	Pro	Gly	Leu	Gln	Phe	Cys	Thr	Val	Ala		
225					230					235					240		
His	Glu	His	Arg	Ile	Ser	Ala	Ser	Asp	Val	Phe	Asp	Asp	Gly	Val	Met		
			245					250					255				
Tyr	Tyr	Gly	Ser	Asn	Cys	Met	Lys	Asn	Arg	Ser	Tyr	Leu	Val	Phe	Thr		
		260						265				270					
Ile	Lys	Pro	Asp	Gly	Tyr	Asp	Tyr	Glu	Val	Val	Glu	Phe					
		275					280					285					

&lt;210&gt; 5518

&lt;211&gt; 326

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5518

Ser	Ile	Thr	Gln	Thr	Ala	Val	Met	Lys	Asn	Tyr	Ile	Val	Asn	Glu	Leu		
1			5					10					15				
Ile	Ala	Ala	Met	Lys	Glu	Arg	Ile	Pro	Arg	Gly	Ile	Asn	Leu	Ala	Asn		
		20						25				30					
Tyr	Leu	Thr	Asp	Ala	Leu	Cys	Met	Gly	Lys	Glu	Ala	Val	Tyr	Arg	Arg		
		35				40					45						
Leu	Arg	Gly	Glu	Val	Ala	Phe	Thr	Phe	Asp	Glu	Ile	Ala	Met	Ile	Ser		
	50				55					60							
Cys	Lys	Leu	Gly	Ile	Ser	Ile	Asp	Gln	Ile	Ile	Gly	Asn	His	Gln	Ser		
65					70				75					80			
Asn	Arg	Val	Thr	Phe	Asp	Leu	Asn	Leu	Leu	His	Ser	Pro	Asp	Pro	Leu		
			85					90				95					
Glu	Ser	Tyr	Tyr	Glu	Ile	Ile	Glu	Arg	Tyr	Leu	Arg	Ile	Phe	Asn	Tyr		
		100					105					110					
Val	Lys	Asp	Asp	Ile	Ser	Thr	Lys	Ile	Tyr	Thr	Ala	Ser	Asn	Val	Ile		
		115					120					125					
Pro	Phe	Thr	Leu	Tyr	Ser	Ser	Tyr	Glu	Tyr	Leu	Ser	Lys	Phe	Arg	Leu		
	130					135					140						
Cys	Arg	Trp	Ile	Tyr	Gln	Asn	Gly	Lys	Ile	Arg	Thr	Pro	Asn	Ser	Leu		
145				150						155					160		
Ser	Gly	Met	His	Ile	Pro	Asp	Lys	Ala	Val	His	Ala	His	Lys	Leu	Leu		
			165					170						175			
Ser	Glu	Ala	Val	Lys	Ala	Cys	Arg	Lys	Thr	Cys	Phe	Ile	Trp	Asp	Ser		
		180						185					190				
Asn	Val	Phe	Tyr	Ser	Phe	Val	Lys	Glu	Met	Lys	Tyr	Phe	Ala	Gly	Leu		
	195						200					205					
Asn	Leu	Ile	Ser	Glu	Thr	Asp	Leu	Ile	His	Leu	Lys	Asn	Glu	Leu	Glu		
	210				215						220						
Leu	Leu	Leu	His	Glu	Leu	Gln	Ile	Ser	Ala	Lys	Gly	Glu	Phe	Ser			
225				230					235					240			
Asn	Gly	Asn	Lys	Val	Ala	Ile	Tyr	Leu	Ser	Asn	Ile	Asp	Phe	Glu	Ala		
			245					250					255				
Thr	Tyr	Ser	Tyr	Ile	Glu	Lys	Lys	Asp	Phe	Gln	Ile	Ser	Leu	Leu	Arg		
		260						265					270				
Val	Tyr	Ser	Ile	Asn	Ser	Met	Asp	Ser	Gln	Ser	Pro	Arg	Ile	Cys	Gly		
	275						280					285					
Ile	Gln	Lys	Asp	Trp	Ile	Gln	Ser	Leu	Lys	Arg	His	Ser	Thr	Leu	Ile		

290		295		300
Ser Glu Ser Gly Glu Ser	Gln Arg Ile Thr Phe	Leu Glu Gln Gln Lys		
305	310	315		320
Ser Phe Ile Asp Thr	Leu			
	325			

<210> 5519  
 <211> 328  
 <212> PRT  
 <213> B.fragilis

<400> 5519  
 Thr Glu Lys Gln Tyr Lys Leu Lys Ile Met Ile Thr Asn Glu Leu Asn  
 1 5 10 15  
 Ile Gly Leu Ile Glu Ala Ala Lys Glu Lys Met Pro Thr Gly Thr Asn  
 20 25 30  
 Leu Ala Asn Thr Leu Met Asp Ile Leu Tyr Ile Gly Lys Glu Ala Ile  
 35 40 45  
 Tyr Arg Arg Leu Arg Gly Glu Val Pro Phe Thr Leu Ala Glu Ala Ala  
 50 55 60  
 Val Ile Ser Arg Lys Leu Gly Ile Ser Leu Asp Lys Met Ile Gly Val  
 65 70 75 80  
 Ser Phe Ser Asn Asn Ala Val Phe Asp Leu Asn Val Val His His Thr  
 85 90 95  
 Asn Thr Phe Glu Thr Tyr His Asp Ile Leu Thr Lys Tyr Val Asn Ala  
 100 105 110  
 Phe Asp Asn Ile Arg Glu Asp Pro Thr Thr Glu Met Ala Thr Ser Ser  
 115 120 125  
 Asn Ile Leu Pro Gln Ala Leu Tyr Leu Lys His Asp Val Leu Ser Lys  
 130 135 140  
 Phe Arg Leu Phe Lys Trp Met Tyr Gln Asn Glu Asn Ile Lys Cys Lys  
 145 150 155 160  
 His Phe Asp Glu Leu Glu Ile Pro His Lys Ile Tyr Asn Ile Gln Lys  
 165 170 175  
 Asp Phe Val Asn Met Thr Gln Gln Met Lys Thr Thr Asp Tyr Ile Trp  
 180 185 190  
 Asp Asn Thr Val Phe Glu His Val Val Arg Asp Ile Gln Phe Phe Ser  
 195 200 205  
 Glu Ile His Leu Val Ser Glu Glu Asp Lys Glu Leu Ile Lys Asp Asp  
 210 215 220  
 Leu Leu Leu Leu Thr Asp Glu Leu Glu Glu Leu Ala Gly Lys Gly Lys  
 225 230 235 240  
 Tyr Glu Thr Gly Asn Asp Val Arg Ile Tyr Ile Ser Asn Ile Lys Phe  
 245 250 255  
 Asp Ala Thr Tyr Ser Tyr Val Ala Thr Ser Asn Ser His Ile Ser Met  
 260 265 270  
 Ile Arg Ile Tyr Ser Ile Asn Ala Ile Thr Thr Gln Asp Asp Gly Met  
 275 280 285  
 Phe Arg Ser Leu Lys Glu Trp Val Gln Ser Leu Lys Lys Phe Ser Thr  
 290 295 300  
 Gln Ile Ser Glu Ser Gly Glu Met Gln Arg Ile Arg Phe Phe Asn Glu  
 305 310 315 320  
 Gln Arg Glu Ile Ile Asn Thr Leu  
 325

<210> 5520  
 <211> 463  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5520

Gln Phe Phe Leu Val Pro Phe Phe Leu Leu Ser Asn Asn Phe Leu Ile  
 1 5 10 15  
 Leu Ser Glu Tyr Leu Ile Ile Ala Phe Lys Arg Phe Ala Ser Trp Gly  
 20 25 30  
 Ser Cys Thr Phe Ala Ser Lys Ile Thr Arg Thr Met Ile Arg Lys Phe  
 35 40 45  
 Phe Ile Leu Phe Phe Leu Gly Phe Phe Gly Phe Ala Glu Ala Gln Gln  
 50 55 60  
 Pro Ser Val Gly Leu Thr Leu Lys Glu Ala Glu Gln Arg Phe Leu Lys  
 65 70 75 80  
 Cys Asn Leu Ser Leu Leu Ala Glu Arg Tyr Asn Val Asp Ile Ala Gln  
 85 90 95  
 Ala Arg Leu Leu Gln Ala Gly Leu Phe Asp Asn Pro Val Ile Ser Phe  
 100 105 110  
 Glu Gln Asn Val Tyr Asn Arg Leu Asn Gly Lys Tyr Phe Asp Phe Gly  
 115 120 125  
 Lys Lys Gly Glu Ser Val Val Glu Ile Glu Gln Val Ile Arg Leu Ala  
 130 135 140  
 Gly Gln Arg Asn Lys Gln Ile Arg Leu Glu Lys Ile Asn Lys Glu Ile  
 145 150 155 160  
 Ala Gly Tyr Gln Phe Glu Glu Val Met Arg Thr Leu Arg Gln Glu Leu  
 165 170 175  
 Gly Glu Ala Phe Thr Glu Val Phe Tyr Leu Ser Lys Ser Leu Ser Val  
 180 185 190  
 Tyr Asp Lys Glu Ile Asn Ser Leu Glu His Leu Leu Thr Gly Ile Lys  
 195 200 205  
 Glu Gln His Ala Lys Gly Asn Ile Ser Leu Met Glu Met Ala Arg Leu  
 210 215 220  
 Glu Ser Met Leu Leu Ser Leu Lys Lys Asp Lys Asn Glu Cys Glu Ser  
 225 230 235 240  
 Asn Tyr Leu Ser Arg Arg Gly Glu Leu Asn Leu Leu Leu Asn Leu Pro  
 245 250 255  
 Ala Asp Phe Arg Thr Glu Pro Val Ile Asp Glu Gly Asp Leu Arg Gln  
 260 265 270  
 Leu Asn Met Asp Arg Leu Ser Tyr Ala Asp Leu Gln Glu Arg Val His  
 275 280 285  
 Gly Arg Pro Asp Gln Lys Leu Ala Arg Ser Cys Val Thr Ala Ser Gln  
 290 295 300  
 Ala Asp Leu Lys Leu Gln Lys Ala Leu Ala Phe Pro Glu Phe Ala Val  
 305 310 315 320  
 Lys Gly Ser Tyr Asp Arg Gln Gly Asn Phe Ile Asn Asn Tyr Phe Ala  
 325 330 335  
 Ile Gly Phe Ser Met Ser Val Pro Ile Phe Asn Arg Asn Gln Gly Asn  
 340 345 350  
 Ile Lys Met Ala Arg Phe Asn Leu Leu Lys Ala Asp Arg Glu Gln Glu  
 355 360 365  
 Tyr Ser Arg Asn Lys Ala Glu Ala Glu Leu Tyr Ala Ala Tyr Thr Ala  
 370 375 380  
 Leu Glu Lys Ala Cys Gln Leu Tyr Gln Ser Thr Asp Met Gly Leu Glu  
 385 390 395 400  
 Gln Asn Phe Glu Lys Leu Ile Ala Gly Ala Asn Glu Asn Phe Ile Lys  
 405 410 415  
 Arg Asn Ile Ser Leu Leu Glu Phe Ile Asp Phe Tyr Asp Ser Tyr Lys  
 420 425 430  
 Glu Thr Cys Ile Arg Leu Tyr Glu Ile Lys Lys Asn Val Leu Leu Gly  
 435 440 445  
 Ile Glu Asn Leu Asn Ala Val Ala Gly Gln Pro Ile Phe Asn Tyr

450

455

460

&lt;210&gt; 5521

&lt;211&gt; 225

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5521

Gln Thr Arg Lys Arg Met Phe Met Asp Ala Thr Lys Lys Ile Thr Ala  
 1 5 10 15  
 Leu Phe Asp Cys Asp Gly Val Ile Val Asp Thr Glu Gly Gln Tyr Thr  
 20 25 30  
 Val Phe Trp Asn Glu Met Gly Gln Lys Tyr Val Asn Asp Ala Asn Phe  
 35 40 45  
 Gly Ser Lys Val Lys Gly Gln Thr Leu Val Gln Ile Tyr Asp Lys Tyr  
 50 55 60  
 Phe Ala Gly Glu Pro Glu Lys Gln Arg Asp Ile Thr Glu Ala Leu Asn  
 65 70 75 80  
 Arg Phe Glu Ile Lys Met Asn Tyr Asp Tyr Val Pro Gly Ile Val Glu  
 85 90 95  
 Phe Ile Ala Asp Leu Arg Arg His Gly Val Lys Ile Ala Leu Val Thr  
 100 105 110  
 Ser Ser Asn Thr Ala Lys Met Glu Asn Val Tyr His Ala His Pro Glu  
 115 120 125  
 Phe Lys Ser Leu Phe Asp Glu Ile Leu Thr Ala Glu Arg Phe Lys Arg  
 130 135 140  
 Ser Lys Pro Asp Pro Glu Cys Phe Leu Leu Gly Met Thr Ile Phe Gly  
 145 150 155 160  
 Ser Asp Ser Lys Asp Ser Tyr Val Phe Glu Asp Ser Phe His Gly Leu  
 165 170 175  
 Gln Ala Gly Arg Ser Ser Gly Ala Ile Val Val Gly Leu Ala Thr Thr  
 180 185 190  
 Asn Ser Arg Glu Ala Ile Ala Asp Lys Ala Asp Tyr Val Ile Asp Asp  
 195 200 205  
 Phe Arg Gly Met Thr Tyr Glu Lys Leu Leu Thr Ile Thr Ser Arg Tyr  
 210 215 220  
 Ile  
 225

&lt;210&gt; 5522

&lt;211&gt; 228

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5522

Tyr His Phe Asn Leu Lys Ile Met Thr Tyr Leu Ala Thr Asn Pro Leu  
 1 5 10 15  
 Phe His Gly Ile Ser Pro Glu Thr Leu Ser Arg Asp Phe Asp Gly Ile  
 20 25 30  
 Val Ser His Leu Arg Met Phe Arg Lys Gly Asp Ile Leu Ala Arg Gln  
 35 40 45  
 Gly Asp Val Cys Asn Arg Leu Met Ile Leu Leu Lys Gly Ser Val Arg  
 50 55 60  
 Gly Glu Met Ile Asp Tyr Ser Gly Arg Leu Ile Lys Val Glu Asp Ile  
 65 70 75 80  
 Ile Ala Pro Arg Ala Ile Ala Pro Leu Phe Leu Phe Gly Ala Asp Asn  
 85 90 95  
 Arg Tyr Pro Val Glu Val Thr Ala Asn Glu Ala Thr Glu Val Phe Glu  
 100 105 110



Ile Pro Lys Glu Ser Val Leu Lys Leu Phe Arg Arg Asn Glu Lys Phe  
 115 120 125  
 Leu Glu Asn Tyr Met Asn Leu Ser Ala Asn Tyr Ala Arg Thr Leu Ala  
 130 135 140  
 Asp Lys Leu Phe Phe Met Ser Phe Lys Thr Ile Arg Gln Lys Leu Ala  
 145 150 155 160  
 Ser Tyr Leu Leu Arg Met Leu Lys Gln Gln Gly Asp Ser Pro Ile Gln  
 165 170 175  
 Leu Asp Arg Ser Gln Gln Glu Leu Ala Asp Tyr Phe Gly Val Ser Arg  
 180 185 190  
 Pro Ser Leu Ala Arg Glu Leu Ala His Met Gln Asp Asp Gly Leu Ile  
 195 200 205  
 Lys Thr Asp Arg Lys Leu Val His Ile Leu Arg Lys Glu Asp Met Met  
 210 215 220  
 Gln Leu Ile Gln  
 225

<210> 5523  
 <211> 70  
 <212> PRT  
 <213> B.fragilis

<400> 5523  
 Ser Leu His Asn Ala Lys His Gln Gln Met Cys Ser Val Leu His Gln  
 1 5 10 15  
 Arg Ile Thr Arg Leu Val Ala Ala Thr Lys Thr Pro Lys Arg Lys His  
 20 25 30  
 Thr Tyr Ile Phe Pro Leu Val Asn Ile Asp Gln Ile Gly Met Glu Arg  
 35 40 45  
 Ala Asp Lys Lys His Cys Lys Arg Lys Lys Tyr Lys Tyr Asp Ser Arg  
 50 55 60  
 Leu Thr Asp Arg His Ala  
 65 70

<210> 5524  
 <211> 131  
 <212> PRT  
 <213> B.fragilis

<400> 5524  
 Lys Lys His Asn Met Pro Glu Lys His Ile Tyr Glu Tyr Ala Val Val  
 1 5 10 15  
 Arg Ile Val Pro Lys Val Glu Arg Glu Glu Phe Ile Asn Val Gly Val  
 20 25 30  
 Ile Leu Phe Ser Lys Gln Ala Ala Phe Ile Arg Met Arg Tyr Glu Ile  
 35 40 45  
 Asn Lys Lys Arg Leu Glu Ala Leu Ser Pro Glu Pro Asp Ile Asp Ser  
 50 55 60  
 Phe Arg Lys Tyr Leu Glu Ala Phe Ser Lys Val Cys Ala Gly Cys Pro  
 65 70 75 80  
 Thr Gly Gly Gly Ile Ala Lys Leu Glu Val Pro Glu Arg Phe Arg Trp  
 85 90 95  
 Leu Thr Ala His Arg Ser Ser Cys Ile Gln Thr Ser Arg Pro His Val  
 100 105 110  
 Gly Tyr Ser Asp Asn Leu Glu Glu Thr Leu Glu Arg Leu Phe Glu Glu  
 115 120 125  
 Leu Val Leu  
 130

<210> 5525  
 <211> 68  
 <212> PRT  
 <213> B.fragilis

<400> 5525  
 Phe Arg Gly Lys Tyr Thr Val Phe Val Arg Glu Asn Gly His Phe Ser  
 1 5 10 15  
 Thr Glu Arg Glu Tyr Ala Asp Thr Phe Phe Ser Ile Arg Ile Leu His  
 20 25 30  
 Lys Asn Val Arg Phe Ile Arg Glu Ile Glu Lys Lys Asp Lys Asn Arg  
 35 40 45  
 Ser Phe Leu Leu Gly Asn Met Ser Tyr Phe Val Thr Phe Ala Pro Pro  
 50 55 60  
 Tyr Ser Ile Ala  
 65

<210> 5526  
 <211> 92  
 <212> PRT  
 <213> B.fragilis

<400> 5526  
 Thr Ile Leu Lys Leu Lys Ile Met Leu Leu Ser Val Leu Leu Gln Ala  
 1 5 10 15  
 Ala Ala Ala Gly Val Gly Leu Ser Lys Leu Gly Ala Ala Leu Gly Ala  
 20 25 30  
 Gly Leu Ala Val Ile Gly Ala Gly Ile Gly Ile Gly Lys Ile Gly Gly  
 35 40 45  
 Ser Ala Met Glu Gly Ile Ala Arg Gln Pro Glu Ala Ser Gly Asp Ile  
 50 55 60  
 Arg Met Asn Met Ile Ile Ala Ala Ala Leu Val Glu Gly Val Ala Leu  
 65 70 75 80  
 Leu Ala Leu Val Val Cys Leu Leu Val Leu Phe Leu  
 85 90

<210> 5527  
 <211> 379  
 <212> PRT  
 <213> B.fragilis

<400> 5527  
 Ser Tyr Ile Lys Met Asn Met Glu Ile Asn Pro Ser Glu Tyr Lys Ile  
 1 5 10 15  
 Leu Ile Val Asp Asp Val Met Ser Asn Val Leu Leu Leu Lys Val Leu  
 20 25 30  
 Leu Thr Asn Glu Lys Phe Asn Ile Val Thr Ala Ser Asn Gly Asn Gln  
 35 40 45  
 Ala Leu Asp Gln Val Lys Lys Glu Asn Pro Asp Leu Ile Leu Leu Asp  
 50 55 60  
 Val Met Met Pro Asp Met Ser Gly Phe Glu Val Ser Gln Lys Leu Lys  
 65 70 75 80  
 Ala Asp Pro Glu Ala Ala His Ile Pro Ile Ile Phe Leu Thr Ala Leu  
 85 90 95  
 Asn Ser Thr Ala Asp Ile Val Lys Gly Phe Gln Val Gly Gly Asn Asp  
 100 105 110  
 Phe Ile Ser Lys Pro Phe Asn Lys Glu Glu Leu Ile Ile Arg Val Ser  
 115 120 125  
 His Gln Ile Ser Leu Val Ala Ala Lys Arg Ile Ile Glu Ala Lys Thr

130 135 140  
 Glu Glu Leu Lys Lys Thr Ile Ile Gly Arg Asp Lys Leu Tyr Ser Val  
 145 150 155 160  
 Ile Ala His Asp Leu Arg Ser Pro Met Gly Ser Ile Lys Met Val Leu  
 165 170 175  
 Asn Met Leu Ile Leu Ser Leu Pro Lys Glu Lys Ile Gly Glu Asp Met  
 180 185 190  
 Tyr Glu Leu Leu Thr Met Ala Asn Gln Thr Thr Glu Asp Val Phe Ser  
 195 200 205  
 Leu Leu Asp Asn Leu Leu Lys Trp Thr Lys Ser Gln Ile Gly Lys Leu  
 210 215 220  
 Lys Val Val Tyr Gln Asp Ile Asp Met Val Glu Val Val Glu Gly Val  
 225 230 235 240  
 Gly Glu Ile Phe Ala Met Val Ala Gly Leu Lys Asn Ile Arg Leu Arg  
 245 250 255  
 Ile Glu Ser Pro Glu Cys Gln Ala Val His Ala Asp Ile Asp Met Ile  
 260 265 270  
 Lys Thr Val Ile Arg Asn Leu Ile Ser Asn Ala Ile Lys Phe Ser Asn  
 275 280 285  
 Glu Gly Ser Glu Val Leu Ile Lys Val Glu Glu Ser Asp Gly Met Ser  
 290 295 300  
 Val Val Ser Val Lys Asp Ser Gly Cys Gly Ile Asp Glu Glu Ser Gln  
 305 310 315 320  
 Lys Lys Leu Leu His Thr Asp Thr His Phe Ser Thr Phe Gly Thr Asn  
 325 330 335  
 Asn Glu Glu Gly Ser Gly Leu Gly Leu Leu Leu Cys Gln Asp Phe Val  
 340 345 350  
 Val Lys Asn Gly Gly Lys Leu Trp Phe Thr Ser Val Lys Asp Glu Gly  
 355 360 365  
 Ser Thr Phe Tyr Phe Ser Ile Pro Leu Lys Lys  
 370 375

<210> 5528

<211> 532

<212> PRT

<213> B.fragilis

<400> 5528

Ile Cys Thr Lys Phe Arg Asp Tyr Met Lys Thr Val Lys Thr His Ile  
 1 5 10 15  
 Thr Gln Leu Leu His Ala Met Asn Lys Gly Ile Phe Glu Lys Glu His  
 20 25 30  
 Pro Ile Ala Leu Ser Leu Leu Ser Ala Ile Ser Gly Glu Ser Ile Phe  
 35 40 45  
 Phe Leu Gly Pro Pro Gly Val Ala Lys Ser Leu Ile Ala Arg Arg Leu  
 50 55 60  
 Lys Leu Ala Phe Asp Gln Ser Thr Ala Phe Glu Tyr Leu Met Ser Arg  
 65 70 75 80  
 Phe Ser Thr Pro Asp Glu Ile Phe Gly Pro Val Ser Ile Ser Lys Leu  
 85 90 95  
 Lys Asp Glu Asp Lys Tyr Glu Arg Ile Ile Glu Gly Tyr Leu Pro Ser  
 100 105 110  
 Ala Thr Ile Val Phe Leu Asp Glu Ile Trp Lys Ala Gly Pro Ser Ile  
 115 120 125  
 Gln Asn Ser Leu Leu Thr Val Ile Asn Glu Lys Val Tyr Arg Asn Gly  
 130 135 140  
 Gln Tyr Thr Ile Gln Leu Pro Leu Lys Gly Leu Ile Ala Ala Ser Asn  
 145 150 155 160  
 Glu Leu Pro Ala Gln Gly Glu Gly Leu Glu Ala Leu Trp Asp Arg Phe

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165      170      175
Leu Ile Arg Tyr Phe Ile Gly Asn Ile Glu Gln Glu Phe Ala Phe Asp
180      185      190
Gln Met Ile Ala Ser Val Asn Asp Met Glu Ala Glu Ile Pro Thr Gly
195      200      205
Leu Ser Ile Thr Glu Glu Gln Tyr Thr Asp Trp Arg Thr Gln Ile Ser
210      215      220
Gln Ile Lys Ile His Tyr Thr Val Phe Glu Leu Ile His Ser Ile Lys
225      230      235      240
Arg Gln Ile Glu Lys Tyr Asn Ile Gln Lys Glu Glu Val Pro His Ser
245      250      255
Thr Leu Tyr Ile Ser Asp Arg Arg Trp Lys Lys Ile Val Ser Leu Leu
260      265      270
Arg Thr Ser Ala Phe Leu Asn Glu Thr Asp Thr Ile Arg Phe Ser Asp
275      280      285
Cys Thr Leu Leu Leu His Cys Leu Trp Asn Glu Ile Glu Gln Ile Pro
290      295      300
Ile Ile Glu Gln Met Val Ser Ser Ala Leu Asp Glu Cys Ile Ser His
305      310      315      320
Tyr Leu Cys Gly Glu Arg Thr Leu Glu Gln Lys Leu Ser Ser Ile Arg
325      330      335
Glu Asp Met Lys Ser Glu His Ser Leu Arg Glu Thr Lys Asp Pro Ala
340      345      350
Leu Gln Ile Val Asp Thr Phe Tyr His Gln Ile Glu Arg Tyr Pro Val
355      360      365
Ala Gly Asn Leu Leu Ile Phe Ala Ser Asp Tyr Gln Ser Leu Gln Lys
370      375      380
Asp Thr Gln Lys Leu Phe Tyr Ile Gln Arg Asp Lys Tyr Arg Pro Val
385      390      395      400
Asn Trp Ile Leu Lys Val Tyr Asp His Val Arg Asn Arg Asn Ile Ser
405      410      415
Gln Ser Ala Ile Val Ser Leu Lys Lys Gly Thr Arg Ser Val Phe Ile
420      425      430
Asn Asn Gln Glu Tyr Pro Leu Ala Cys Asn Ala Gly Tyr Asp Ile Ala
435      440      445
Tyr Pro Gln Glu Ala Ser Leu Pro Phe Glu Phe Arg Phe Gln Glu Val
450      455      460
Ile Asp Leu Tyr His Asn Arg Glu Asn Glu Leu Lys Arg Met Thr Asp
465      470      475      480
Ile Glu Leu Thr Tyr Cys Lys Glu His Leu Phe Met Asp Asp Lys Gln
485      490      495
Arg Asn Met Val Lys Gln Ile Leu Asn Arg Gln Lys Glu Met Leu Glu
500      505      510
Ile Tyr Gln Asn Glu Ile Arg Glu Ile Ala Tyr Thr His Gly Leu Glu
515      520      525
Asn Lys Glu Tyr
530

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&lt;210&gt; 5529

&lt;211&gt; 996

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5529

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Ser Lys Gln Lys Ile Gln Gln Thr Gly Lys Arg Ile His Ala Ala Pro
1      5      10      15
Leu Pro Asn Gly Ile Gln Lys His His Arg Leu Ser Val Val Cys Arg
20      25      30
Arg Arg Asn Asn Arg Lys Ser Met Lys Thr Phe Leu Gln Leu Val Ala

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35	40	45
Gln Asp Leu Tyr Cys Lys Ile Gly Asn Asp Leu Ser Arg Thr Ala Ile		
50	55	60
Ile Phe Pro Asn Lys Arg Ala Ser Leu Phe Phe Asn Glu His Leu Ala		
65	70	75
Asn Gln Ser Asp Gln Pro Leu Trp Ser Pro Ala Tyr Leu Ser Ile Ser		
85	90	95
Glu Leu Phe Gln His Leu Ser Val Leu Lys Leu Gly Asp Pro Ile Arg		
100	105	110
Leu Val Cys Glu Leu Tyr Lys Ile Phe Arg Glu Glu Thr Asn Ser Asp		
115	120	125
Glu Ser Leu Asp Asp Phe Tyr Phe Trp Gly Glu Leu Leu Ile Ser Asp		
130	135	140
Phe Asp Asp Val Asp Lys Asn Leu Val His Ala Asp Lys Leu Phe Thr		
145	150	155
Asn Leu Gln Asp Leu Lys Asn Val Met Asp Asp Tyr Glu Phe Leu Asp		
165	170	175
Gln Glu Gln Glu Gln Ala Ile Gln Gln Phe Phe Gln Asn Phe Ser Ile		
180	185	190
Glu Lys Arg Thr Leu Leu Lys Glu Lys Phe Ile Ser Leu Trp Asp Lys		
195	200	205
Leu Gly Asp Ile Tyr Arg Arg Tyr His Lys Lys Leu Glu Glu Leu Gly		
210	215	220
Phe Ala Tyr Glu Gly Met Leu Tyr Arg Asn Val Ile Glu Gln Leu Glu		
225	230	235
Pro Asp Ser Leu Lys Tyr Asp Cys Tyr Val Phe Val Gly Phe Asn Val		
245	250	255
Leu Asn Lys Val Glu Thr His Phe Phe Gln Gln Leu Gln Asn Ala Gly		
260	265	270
Lys Ala Leu Phe Tyr Trp Asp Tyr Asp Val Phe Tyr Thr Gln Leu Pro		
275	280	285
Ser Arg Gln Lys Gln Arg His Glu Ala Gly Glu Phe Ile Asn Arg Asn		
290	295	300
Leu Lys Leu Phe Pro Asn Glu Leu Pro Ala Glu Leu Phe Asn Glu Leu		
305	310	315
Ile Lys Pro Lys Lys Val Arg Phe Ile Ser Ser Pro Thr Glu Asn Ala		
325	330	335
Gln Ala Arg Tyr Leu Pro Gln Trp Val His Glu Asn Leu Ser Asn Glu		
340	345	350
Glu Lys Glu Asn Ala Val Val Leu Cys Asn Glu Ala Leu Leu Leu Pro		
355	360	365
Val Leu His Ser Ile Pro Glu Val Val Arg Asn Val Asn Ile Thr Met		
370	375	380
Gly Phe Pro Leu Ala Gln Thr Pro Val Tyr Ser Phe Ile Asn Ala Ile		
385	390	395
Leu Glu Leu Gln Thr Ser Gly Tyr Arg Thr Asp Ser Gly Arg Tyr Ile		
405	410	415
Tyr Asp Ala Val Gln Thr Val Leu Lys His Pro Tyr Thr Arg Arg Leu		
420	425	430
Ser Asp Lys Ala Glu Pro Leu Gln Arg Glu Leu Thr Lys Thr Asn Arg		
435	440	445
Phe Tyr Pro Phe Pro Ser Glu Leu Lys Lys Asp Lys Phe Leu Asp Ile		
450	455	460
Leu Phe Thr Pro Arg Asn Gly Ile Arg Glu Leu Cys Val Tyr Ile Thr		
465	470	475
Glu Leu Leu Lys Glu Val Ser Val Leu Tyr Arg Gln Glu Gln Glu Ser		
485	490	495
Asp Asp Ile Phe Asn Gln Leu Tyr Arg Glu Ser Leu Phe Lys Ser Phe		
500	505	510

Thr Leu Val Asn Arg Leu Leu Asn Leu Ile Asp Asn Asn Glu Leu Gln  
 515 520 525  
 Val Arg Ile Glu Thr Leu Lys Arg Leu Leu Asn Lys Ile Leu Asn Ala  
 530 535 540  
 Ala Asn Ile Pro Phe His Gly Glu Pro Ala Ile Gly Met Gln Ile Met  
 545 550 555 560  
 Gly Val Leu Glu Thr Arg Asn Leu Asp Phe Arg Asn Leu Leu Leu Leu  
 565 570 575  
 Ser Leu Asn Glu Gly Gln Leu Pro Lys Ser Gly Gly Glu Ser Ser Phe  
 580 585 590  
 Ile Pro Tyr Asn Leu Arg Lys Ala Phe Gly Met Thr Thr Ile Glu His  
 595 600 605  
 Lys Asn Ala Val Tyr Ala Tyr Tyr Phe Tyr Arg Leu Ile Gln Arg Ala  
 610 615 620  
 Glu Asn Ile Thr Leu Met Tyr Asn Thr Ser Ser Asp Gly Leu Asn Arg  
 625 630 635 640  
 Gly Glu Trp Ser Arg Phe Met Leu Gln Phe Leu Ile Glu Trp Pro His  
 645 650 655  
 Glu Ile Ser Arg Glu Tyr Leu Glu Ala Gly Gln Ser Pro Gln Asn Ser  
 660 665 670  
 Lys Glu Ile Arg Ile Thr Lys Thr Pro Glu Ile Ile Asp Arg Leu Tyr  
 675 680 685  
 Arg Thr Tyr Asp Phe Ser Arg Asn Pro Asp Ala Leu Ile Leu Ser Pro  
 690 695 700  
 Ser Ala Leu Asn Thr Tyr Leu Asp Cys Arg Leu Lys Phe Tyr Phe Arg  
 705 710 715 720  
 Tyr Val Ala Arg Leu Lys Ala Pro Asp Glu Val Ser Ala Glu Ile Asp  
 725 730 735  
 Ser Ala Leu Phe Gly Thr Ile Phe His Arg Ser Ala Gln Leu Val Tyr  
 740 745 750  
 Leu Asp Leu Thr Ala Asn Lys Arg Asp Val His Lys Glu Asp Leu Glu  
 755 760 765  
 Arg Leu Leu Arg Asp Asn Ile Arg Leu Gln Asn Tyr Val Asp Ile Ala  
 770 775 780  
 Phe Lys Glu Ile Phe Phe His Val Pro Ile Asp Glu Lys Pro Glu Tyr  
 785 790 795 800  
 Asn Gly Ile Gln Leu Ile Asn Ser Lys Val Ile Thr Ser Tyr Leu Arg  
 805 810 815  
 Gln Leu Leu Arg Asn Asp Leu Gln Tyr Ala Pro Phe Arg Met Met Gly  
 820 825 830  
 Met Glu Gln Glu Val Val Glu Asp Ile Arg Ile Glu Gly Pro Val Gly  
 835 840 845  
 Lys Leu Ser Leu Arg Ile Gly Gly Thr Ile Asp Arg Met Asp Ser Lys  
 850 855 860  
 Glu Gly Thr Leu Arg Ile Val Asp Tyr Lys Thr Gly Gly Ser Pro Lys  
 865 870 875 880  
 Val Pro Thr Asn Ile Glu Gln Leu Phe Thr Pro Ala Glu Gly Arg Pro  
 885 890 895  
 Asn Tyr Ile Phe Gln Thr Phe Leu Tyr Ala Ala Ile Met Ala Arg Gln  
 900 905 910  
 Gln Ala Leu Lys Val Ala Pro Ser Leu Leu Tyr Ile His Arg Ala Ala  
 915 920 925  
 Ser Glu Ser Tyr Ser Pro Val Ile Glu Ile Gly Glu Ala Arg Lys Pro  
 930 935 940  
 Lys Leu Pro Val Asp Asp Phe Ser Val Tyr Glu Asp Glu Phe Arg Glu  
 945 950 955 960  
 Arg Leu Leu Lys Leu Leu Glu Glu Ile Tyr Asp Asp Lys Glu Glu Phe  
 965 970 975  
 Thr Gln Thr Glu Asp Thr Lys Lys Cys Glu Tyr Cys Asp Phe Lys Ala

980  
Met Cys Lys Arg  
995

985

990

<210> 5530  
<211> 60  
<212> PRT  
<213> B.fragilis

<400> 5530  
Tyr Arg Gln Lys Lys Gly Pro Val Ser Ala Lys Pro Ser Leu Ser Phe  
1 5 10 15  
Met Glu Leu Lys His Tyr Ser Asp Leu Met Leu Phe Thr Gly Phe Ser  
20 25 30  
Leu Ala Ile Cys Gln Asp Leu Pro Ile Met Lys Thr Lys Ile Lys Thr  
35 40 45  
Asn Lys Gln Ile Ala Val Thr Thr Tyr Gln Pro Ala  
50 55 60

<210> 5531  
<211> 122  
<212> PRT  
<213> B.fragilis

<400> 5531  
Lys Ser Lys Asn Met Lys Val Ile Asp Leu Thr Lys Glu Ser Phe Val  
1 5 10 15  
Glu Lys Val Ala Glu Phe Gln Glu Tyr Pro Asn Lys Trp Asp Phe Lys  
20 25 30  
Gly Asp Lys Pro Cys Leu Val Asp Phe His Ala Pro Trp Cys Val Tyr  
35 40 45  
Cys Lys Ala Leu Ser Pro Ile Leu Asp Gln Leu Ala Val Glu Tyr Asp  
50 55 60  
Gly Lys Ile Asp Ile Tyr Lys Val Asp Val Asp Gln Glu Pro Glu Leu  
65 70 75 80  
Glu Ala Ala Phe Ala Ile Arg Thr Ile Pro Asn Leu Leu Leu Cys Pro  
85 90 95  
Met Gly Gly Lys Pro Ser Met Lys Leu Gly Thr Met Asn Lys Thr Gln  
100 105 110  
Leu Lys Ala Leu Ile Glu Glu Val Leu Leu  
115 120

<210> 5532  
<211> 448  
<212> PRT  
<213> B.fragilis

<400> 5532  
Val Glu Lys Lys Lys Met Lys Lys Ile Tyr Val Leu Ala Leu Leu Ser  
1 5 10 15  
Cys Leu Leu Met Leu Ser Ala Cys Asp Ser Tyr Leu Asp Ile Arg Pro  
20 25 30  
Val Gly Ser Val Ile Pro Gln Thr Ala Glu Glu Tyr Arg Ala Leu Leu  
35 40 45  
Ala Arg Ala Tyr Leu Asn Val Pro Asn Asp Arg Gly Leu Ala Cys Leu  
50 55 60  
Arg Ser Asp Glu Met Leu Val Asn Asp Asn Glu Tyr Asp Arg Asn Ser  
65 70 75 80  
Tyr Gly Asp Ile Glu Arg Trp Asn Asp Val Ser Pro Phe Pro Gly Thr





50	55	60
Ile Ala Val Cys Gly Arg Asn Ser Ala His Trp Ala Val Thr Phe Leu		
65	70	75
Ala Thr Val Thr Tyr Gly Ala Val Ile Val Pro Ile Leu His Glu Phe		80
	85	90
Lys Ala Asp Asn Ile His Asn Ile Val Asn His Ser Glu Ala Lys Leu		95
	100	105
Leu Phe Val Gly Asp Gln Val Trp Glu Asn Leu Asn Glu Asp Arg Met		110
	115	120
Pro Leu Leu Glu Gly Ile Ser Ser Leu Thr Asp Phe Thr Pro Leu Val		125
	130	135
Ser Arg Asn Asp Lys Leu Thr Tyr Ala His Glu His Arg Asn Glu Ile		140
145	150	155
Tyr Gly Gln Arg Tyr Pro Lys Asn Phe Arg Pro Glu His Ile Ser Tyr		160
	165	170
Arg Lys Asp Met Pro Glu Glu Leu Ala Val Ile Asn Tyr Thr Ser Gly		175
	180	185
Thr Thr Gly Tyr Ser Lys Gly Val Met Leu Pro Tyr Arg Arg Leu Trp		190
	195	200
Ser Asn Ile Ala Tyr Cys His Glu Met Leu Pro Val Lys Pro Gly Asp		205
	210	215
His Ile Val Ser Met Leu Pro Met Gly His Val Phe Gly Met Val Tyr		220
225	230	235
Asp Phe Leu Tyr Gly Phe Ser Ala Gly Ala His Leu Tyr Phe Leu Thr		240
	245	250
Arg Met Pro Ser Pro Lys Ile Ile Ala Gln Ser Phe Ala Glu Ile Lys		255
	260	265
Pro Arg Val Ile Ala Cys Val Pro Leu Ile Val Glu Lys Ile Ile Lys		270
	275	280
Lys Asp Ile Leu Pro Lys Leu Asp Asn Lys Ile Gly Lys Leu Leu Leu		285
	290	295
Arg Val Pro Ile Val Asn Asp Lys Ile Lys Ala Ala Ala Arg Gln Ala		300
305	310	315
Ala Met Glu Ile Phe Gly Gly Asn Phe Asp Glu Ile Ile Ile Gly Gly		320
	325	330
Ala Pro Phe Asn Ala Glu Val Glu Ala Phe Leu Lys Gln Ile Gly Phe		335
	340	345
Pro Tyr Thr Ile Ala Tyr Gly Met Thr Glu Cys Gly Pro Ile Ile Cys		350
	355	360
Ser Ser Arg Trp Glu Thr Leu Lys Gln Ala Ser Cys Gly Lys Ala Thr		365
	370	375
Ser Arg Met Glu Val Lys Ile Asp Ser Pro Asp Pro Glu Asn Ile Ala		380
385	390	395
Gly Glu Ile Ile Cys Lys Gly Thr Asn Leu Met Leu Gly Tyr Tyr Lys		400
	405	410
Asn Thr Glu Ala Thr Ser Gln Ile Ile Asp Val Asn Gly Trp Leu His		415
	420	425
Thr Gly Asp Leu Ala Thr Met Asp Ser Glu Gly Tyr Val Thr Val Arg		430
	435	440
Gly Arg Ser Lys Asn Met Leu Leu Thr Ser Ser Gly Gln Asn Ile Tyr		445
	450	455
Pro Glu Glu Ile Glu Ser Lys Phe Asn Asn Met Pro Tyr Val Ser Glu		460
465	470	475
Ser Leu Val Leu Leu Gln Lys Asp Lys Leu Val Ala Leu Ile Tyr Pro		480
	485	490
Asp Phe Asp Asp Ala Phe Ala His Gly Leu Leu Gln Ser Asp Ile Glu		495
	500	505
Lys Ile Met Glu Thr Asn Arg Ile Glu Leu Asn Gln Gln Leu Pro Ala		510
	515	520
		525

Tyr Cys Gln Ile Thr Lys Ile Lys Ile His Phe Glu Glu Phe Glu Lys  
 530 535 540  
 Thr Ala Lys Lys Ser Ile Lys Arg Phe Met Tyr Gln Glu Ala Lys Gly  
 545 550 555 560

<210> 5534  
 <211> 83  
 <212> PRT  
 <213> B.fragilis

<400> 5534  
 Gly Ile Met Lys Glu Leu His Leu Asn Ile Val Ser Pro Glu Lys Glu  
 1 5 10 15  
 Val Phe Asn Gly Glu Val Lys Ser Val Thr Leu Pro Gly Thr Ser Gly  
 20 25 30  
 Val Phe Ser Ile Leu Pro Gln His Ala Pro Ile Val Ser Ser Leu Gln  
 35 40 45  
 Glu Gly Thr Val Ser Tyr Thr Thr Thr Asp Gly Glu Glu His Thr Leu  
 50 55 60  
 Asp Ile His Ser Gly Phe Val Glu Leu Ser Asn Gly Glu Ala Ser Val  
 65 70 75 80  
 Cys Val Ser

<210> 5535  
 <211> 189  
 <212> PRT  
 <213> B.fragilis

<400> 5535  
 Lys Arg Lys Asn Thr Met His Lys Phe Ile Asp Asn Ile Val Ala Phe  
 1 5 10 15  
 Ser Leu Lys Asn Lys Phe Phe Ile Phe Phe Cys Thr Thr Ile Ala Val  
 20 25 30  
 Ile Ala Gly Val Val Ser Phe Lys His Thr Pro Ile Asp Ala Phe Pro  
 35 40 45  
 Asp Val Thr Asn Thr Lys Val Thr Ile Ile Thr Gln Trp Ala Gly Arg  
 50 55 60  
 Ser Ala Glu Glu Val Glu Lys Phe Ile Thr Ile Pro Val Glu Ile Ala  
 65 70 75 80  
 Met Asn Ser Val Gln Lys Lys Thr Asp Ile Arg Ser Thr Thr Leu Phe  
 85 90 95  
 Gly Leu Ser Val Ile Asn Val Leu Phe Glu Asp His Val Asp Asp Phe  
 100 105 110  
 Val Ala Arg Gln Gln Val Tyr Asn Leu Leu Asn Asp Ala Asp Leu Pro  
 115 120 125  
 Asp Gly Val Thr Pro Glu Val Gln Pro Leu Tyr Gly Pro Thr Gly Glu  
 130 135 140  
 Ile Tyr Arg Tyr Thr Leu Arg Ser Asp Lys Arg Ser Val Arg Glu Leu  
 145 150 155 160  
 Lys Thr Ile Gln Asp Trp Val Ile Asp Arg Asn Leu Arg Ala Val Ser  
 165 170 175  
 Glu Val Thr Asp Ile Val Ser Phe Asp Gly Glu Val Phe  
 180 185

<210> 5536  
 <211> 76  
 <212> PRT  
 <213> B.fragilis

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&lt;400&gt; 5536

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Ser Phe Arg Lys Cys Lys Ser Glu Met Lys Val Leu Asn Ala Asn Ile
1           5           10           15
Glu Glu Ile His Val Arg Val Lys Pro Ile Lys Thr Ser Tyr Cys Leu
           20           25           30
Met Leu Gln Ser Lys Ala Leu Ile Pro Asp Asn Thr Pro Tyr Pro Leu
           35           40           45
Leu Phe Ile Leu Leu Asn Ile Leu Tyr Cys Val Ile Arg Pro Lys Ile
           50           55           60
Asn Ile Ser Leu Trp Leu Tyr Val Ser Tyr Leu Leu
65           70           75

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&lt;210&gt; 5537

&lt;211&gt; 248

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5537

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Met Ile Arg Asn Lys Val Met Glu Gln Ser Phe Ile Glu Tyr Ser Leu
1           5           10           15
Gly Lys Asp Ala Ser Ser Ala Val Leu Trp Val Tyr Pro Val Arg Lys
           20           25           30
Pro Arg Gly Lys Ala Ile Ile Met Cys Pro Gly Gly Gly Phe Asn Gln
           35           40           45
Ile Ala Ser Asp His Glu Gly Arg Asp Phe Ala Ala Trp Phe Asn Asn
           50           55           60
Gln Gly Ile Thr Tyr Ala Val Leu Asn Tyr Arg Met Pro Asn Gly Asp
65           70           75           80
Val Glu Val Ile Arg Glu Asp Ile Arg Glu Ala Ile Arg Leu Ile Arg
           85           90           95
Arg Gln Ser Ala Glu Trp Gly Ile His Gln Leu Gly Val Met Gly Ala
           100          105          110
Ser Ile Gly Gly Tyr Ile Ala Ala Thr Ala Ala Thr Leu Tyr Thr Gly
           115          120          125
Thr Asp Arg Pro Asp Phe Gln Val Leu Leu Tyr Pro Val Ile Ser Met
           130          135          140
Thr Asp Arg Leu Thr His Trp Pro Ser Arg Glu Arg Met Leu Gly Glu
145          150          155          160
Thr Ile Ser Glu Gly Leu Lys Glu Thr Leu Ser Leu Glu Leu His Val
           165          170          175
Thr Ala Asp Thr Pro Pro Thr Phe Ile Val Leu Ala Glu Asp Asp Gln
           180          185          190
Ala Val Ser Pro Leu Asn Ser Ile Val Tyr Tyr Thr Ala Leu Leu Lys
           195          200          205
His Gly Val Ser Ala Gly Leu His Ile Tyr Pro Glu Gly Gly His Ser
           210          215          220
Phe Gly Phe Arg Asp Ser Phe Ile Tyr Lys Glu Leu Trp Thr Asp Glu
225          230          235          240
Leu Gln Lys Trp Leu Leu Thr Phe
           245

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&lt;210&gt; 5538

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5538

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Arg Glu Ser Asp Lys Ile Lys Asp Leu Phe Ile Phe Arg Leu Pro Ile

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1           5           10           15
Leu Lys Ile Ala Ser Lys Asp Ile Leu Glu Gln Thr Ala Leu Ser Thr
      20           25           30
Ser Phe Gly Asn Ser Ser Ala Thr Val Asp Ala Ile Gly Ile Asn Val
      35           40           45
Tyr Asp Pro Ala Phe Pro Leu Ile Thr Pro Ser Leu Ile His Ser Val
      50           55           60
Phe Thr Met
65

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<210> 5539  
 <211> 254  
 <212> PRT  
 <213> B.fragilis

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<400> 5539
Val Leu Arg Glu Ala Ile Pro Ala Ala Leu Ser Ile Pro Gly Arg Glu
1           5           10           15
Gly Tyr Pro Val Tyr Ala Ile Phe Ala Ile Lys Thr Ala Gly Leu Asp
      20           25           30
Glu Glu Gly Tyr Pro Leu Phe Tyr Asp Lys Glu Gly Lys Lys Val Thr
      35           40           45
Leu Lys Glu Leu Tyr Arg Trp Gln Asp Pro Phe Gly Leu Gly Phe Thr
      50           55           60
Val Asn Ser Asp Val Thr Pro Ala Glu Glu Arg Ser Phe Tyr Ser Tyr
65           70           75           80
Ile Gly Ser Gln Asp Thr Pro Tyr Thr Gly Gly Leu Ile Asn Thr Phe
      85           90           95
Ser Tyr Lys Asn Trp Glu Leu Thr Ala Asn Leu Ser Phe Asn Leu Gly
      100          105          110
Gly Tyr Val Arg Thr Thr Pro Ser Tyr Asn Phe Ile Asn Phe Asp Arg
      115          120          125
Gly Gln Asn Val Asn Ser Asp Ile Leu Asp Arg Trp Thr Pro Glu Asn
      130          135          140
Thr Asp Gly Arg Leu Pro Ala Leu Ile Thr Ser Glu Lys Arg Ala Asp
145          150          155          160
Glu Tyr Tyr Trp Tyr Asp Gln Lys Ser Glu Ile Tyr Lys Asn Leu Asp
      165          170          175
Ile Trp Val Lys Lys Leu Asn Tyr Phe Arg Leu Gln Asn Leu Arg Leu
      180          185          190
Gly Tyr Arg Leu Pro Glu Lys Met Thr Lys Ser Leu Gly Met Gly Ser
      195          200          205
Ala Ser Val Ala Ile Glu Gly Arg Asn Leu Leu Val Phe Gly Ser Ser
      210          215          220
Tyr Lys Asn Phe Leu Asp Pro Glu Ser Met Tyr Asn Pro Tyr Ala Pro
225          230          235          240
Pro Ile Pro Lys Ser Ile Thr Phe Ser Leu Asn Leu Asn Phe
      245          250

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<210> 5540  
 <211> 349  
 <212> PRT  
 <213> B.fragilis

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<400> 5540
His Leu Arg Glu Glu Ser Leu Ser Phe Ala Trp Tyr Leu Lys Arg Glu
1           5           10           15
Lys Ala Met Tyr Lys Gln Thr Ile Arg Pro Val Leu Phe Leu Met Glu
      20           25           30

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<400> 5541															
Met	Ser	Glu	Leu	Ile	Val	Tyr	Lys	Ala	Ser	Ala	Gly	Ser	Gly	Lys	Thr
1				5					10					15	
Phe	Thr	Leu	Ala	Val	Glu	Tyr	Ile	Lys	Leu	Leu	Ile	Arg	Asn	Pro	Arg
			20					25					30		
Ala	Tyr	Arg	Gln	Ile	Leu	Ala	Val	Thr	Phe	Thr	Asn	Lys	Ala	Thr	Ala
		35					40					45			
Glu	Met	Lys	Glu	Arg	Ile	Leu	Ser	Gln	Leu	Tyr	Gly	Ile	Gln	Ile	Gly
	50					55					60				
Asp	Pro	Asp	Ser	Asp	Ala	Tyr	Leu	Lys	Arg	Ile	Ile	Ala	Glu	Thr	Gly
65					70					75					80
His	Ser	Glu	Asp	Glu	Ile	Arg	Thr	Thr	Ala	Gly	Ile	Ala	Leu	Gly	Tyr
				85					90					95	

Met Leu His Asp Tyr Ser Arg Phe Arg Val Glu Thr Ile Asp Ser Phe  
 100 105 110  
 Phe Gln Ser Val Met Arg Asn Leu Ala Arg Glu Leu Glu Leu Ser Pro  
 115 120 125  
 Asn Leu Asn Ile Glu Leu Asn Asn Val Glu Val Leu Ser Asp Ala Val  
 130 135 140  
 Asp Ser Met Ile Glu Lys Leu Gly Pro Asn Ser Pro Val Leu Val Trp  
 145 150 155 160  
 Leu Leu Asp Tyr Ile Asp Glu Arg Ile Ala Asp Asp Lys Arg Trp Asn  
 165 170 175  
 Val Ser Asp Glu Ile Lys Ser Phe Gly Arg Asn Ile Phe Asp Glu Gly  
 180 185 190  
 Tyr Ile Glu Lys Gly Asp Gly Leu Arg Arg Arg Leu Arg Asp Pro Asn  
 195 200 205  
 Val Ile His Asn Tyr Arg Lys Thr Leu Lys Glu Met Glu Thr Ala Ala  
 210 215 220  
 Leu Glu Gln Met Lys Glu Phe Ala Gln Gln Phe Glu Asn Val Leu Ser  
 225 230 235 240  
 Ser Gln Ser Leu Lys Pro Thr Asp Leu Lys Asn Gly Ala Lys Gly Ile  
 245 250 255  
 Gly Ser Tyr Phe Asn Lys Leu Lys Asn Gly Ile Leu Gly Asp Glu Ile  
 260 265 270  
 Val Asn Ala Thr Val Ile Lys Cys Leu Asp Asp Glu Thr Asn Trp Ala  
 275 280 285  
 Ala Lys Thr Ser Lys Gln Tyr Thr Asp Ile Ile Leu Leu Ala Ser Ser  
 290 295 300  
 Ile Leu Met Pro Leu Leu Gln Asn Ala Glu Gln Tyr Arg Ser Arg Asn  
 305 310 315 320  
 Asn Arg Ile Val Asn Ser Cys Arg Leu Ser Thr Gln His Leu Ser Lys  
 325 330 335  
 Val Arg Leu Leu Thr Asn Ile Asp Glu Glu Val Arg Gln Leu Asn Arg  
 340 345 350  
 Glu Asn Asn Arg Phe Leu Leu Ser Asp Thr Asn Ala Leu Leu His Gln  
 355 360 365  
 Leu Val Lys Asp Gly Asp Ser Ser Phe Val Phe Glu Lys Ile Gly Thr  
 370 375 380  
 Asn Ile Arg Asn Val Met Ile Asp Glu Phe Gln Asp Thr Ser Arg Met  
 385 390 395 400  
 Gln Trp Asp Asn Phe Lys Leu Leu Leu Leu Glu Gly Leu Ser Gln Gly  
 405 410 415  
 Ala Asp Ser Leu Ile Val Gly Asp Val Lys Gln Ser Ile Tyr Arg Trp  
 420 425 430  
 Arg Asn Gly Asp Trp Gly Ile Leu Asn Gly Leu Asn Lys Gln Leu Gly  
 435 440 445  
 Tyr Phe Ser Ile Arg Thr Glu Thr Leu Lys Thr Asn Arg Arg Ser Glu  
 450 455 460  
 Thr Asn Ile Ile Arg Phe Asn Asn Ser Ile Phe Ser Ala Ala Val Asp  
 465 470 475 480  
 Tyr Leu Asn Glu Met Tyr Asn Lys Gln Leu Gly Ser Ile Cys Glu Pro  
 485 490 495  
 Leu Ile Asn Ala Tyr Ala Asp Val Glu Gln Glu Ser Pro Arg Asn Lys  
 500 505 510  
 Gln Gln Gly Tyr Val Lys Val Glu Phe Leu Glu Pro Asp Glu Glu His  
 515 520 525  
 Asp Tyr Thr Glu Gln Thr Leu Ile Ser Leu Gly Met Glu Val Glu His  
 530 535 540  
 Leu Leu Gln Ser Gly Val Lys Leu Asn Asp Ile Ala Ile Leu Val Arg  
 545 550 555 560  
 Lys Asn Lys Ser Ile Pro Arg Ile Ala Asp Tyr Phe Asp Lys Gln Leu

[illegible]

Asn Ile Thr Gly Tyr Leu Trp Tyr Val Glu Glu Glu Ile Ile Glu Lys  
 1045 1050 1055  
 Val

<210> 5542  
 <211> 364  
 <212> PRT  
 <213> B.fragilis

<400> 5542

Phe Met Asn Trp Thr Lys Tyr Leu Pro Cys Leu Leu Ile Leu Gly Met  
 1 5 10 15  
 Gly Ser Gly Cys Ser Ser Glu Val Lys His Pro Gly Glu Asn Gln Asp  
 20 25 30  
 Leu Cys Leu Thr Asp Ser Leu Leu Lys Ile Val Ser Val Asp Thr Val  
 35 40 45  
 His Leu His Asp Val Ala Asp Glu Leu Thr Leu Asn Gly Arg Val Thr  
 50 55 60  
 Phe Asn Gln Glu Gln Val Ala His Val Tyr Pro Met Phe Gly Gly Thr  
 65 70 75 80  
 Val Thr Glu Leu Arg Ala Glu Val Gly Asp Tyr Val Arg Lys Gly Asp  
 85 90 95  
 Ile Leu Ala Ile Leu Arg Ser Gly Glu Val Ala Asp Tyr Glu Arg Gln  
 100 105 110  
 Met Lys Glu Ala Glu Gln Gln Val Ile Ile Ala Arg Arg Asn Val Asn  
 115 120 125  
 Ala Thr Arg Asp Met Phe Asp Ser Gly Leu Ala Ser Asp Lys Asp Val  
 130 135 140  
 Leu Gln Ala Arg Gln Glu Leu Ile Asn Ala Glu Ala Glu Glu Asn Arg  
 145 150 155 160  
 Ile Lys Glu Ile Phe Ser Ile Asn Asn Phe Ser Gly Arg Ser Phe Tyr  
 165 170 175  
 Glu Val Lys Ser Pro Val Ser Gly Phe Ile Val Glu Lys Ser Val Ser  
 180 185 190  
 Arg Asn Met Gln Leu Arg Pro Asp Gln Gly Glu Glu Ile Phe Thr Val  
 195 200 205  
 Ser Gly Leu Glu His Val Trp Val Met Ala Asp Val Tyr Glu Ser Asp  
 210 215 220  
 Ile Ser Lys Val Ala Glu Gly Ala Ser Val His Ile Thr Thr Leu Ala  
 225 230 235 240  
 Tyr Pro Gly Lys Val Phe Ser Gly Asn Ile Asp Lys Val Tyr His Met  
 245 250 255  
 Leu Asn Thr Glu Ser Lys Thr Met Asn Val Arg Val Lys Leu Cys Asn  
 260 265 270  
 Glu Asp Tyr Leu Leu Lys Pro Gly Met Phe Thr Thr Val Asn Val Glu  
 275 280 285  
 Cys Lys Ser Ser Gly Lys Gln Met Pro Arg Ile Asn Ala His Ala Leu  
 290 295 300  
 Ile Phe Glu Gly Gly Lys Asn Tyr Val Val Thr Val Thr Pro Asp Asn  
 305 310 315 320  
 Arg Leu Lys Val Lys Glu Val Asp Val Tyr Lys Arg Gln Asn Gln Glu  
 325 330 335  
 Cys Tyr Val Arg Ser Gly Leu Ser Glu Gly Asp Arg Val Leu Asn Gln  
 340 345 350  
 Asn Val Leu Leu Val Tyr Asn Ser Leu Asn Ala Asp  
 355 360

<210> 5543



<211> 208  
 <212> PRT  
 <213> B.fragilis

<400> 5543

Val	Pro	Ser	Cys	Val	Ser	Thr	Trp	Tyr	Glu	Thr	Leu	Phe	Ser	Ala	Gly
1			5						10					15	
Tyr	Gly	Phe	Asp	Arg	Gln	Thr	Leu	Thr	Thr	Lys	Pro	Val	Val	Phe	Pro
			20					25					30		
Asp	Glu	Asp	Arg	Ala	Arg	Gln	Phe	Pro	Leu	His	Gln	Lys	Thr	Tyr	Lys
		35					40					45			
Glu	Asn	Ala	Tyr	Val	Ser	Phe	Phe	Ser	Thr	Ala	Ser	Tyr	Ser	Leu	Met
	50					55					60				
Asn	Arg	Tyr	Thr	Phe	Gly	Gly	Ser	Ile	Arg	Phe	Asp	Gly	Ser	Asp	Leu
65					70				75					80	
Phe	Gly	Val	Asp	Lys	Lys	Tyr	Arg	Tyr	Leu	Pro	Leu	Tyr	Ser	Val	Ser
			85						90					95	
Gly	Leu	Trp	Arg	Leu	Ser	Asn	Glu	Pro	Phe	Met	Gln	Gly	Thr	Arg	Lys
			100					105					110		
Trp	Met	Asp	Asn	Leu	Ala	Phe	Arg	Val	Ser	Tyr	Gly	Ile	Gln	Gly	Asn
		115					120					125			
Ile	Asp	Lys	Asn	Thr	Ser	Pro	Phe	Leu	Leu	Gly	Lys	Tyr	Ile	Val	Asp
	130					135					140				
Asn	Ile	Leu	Pro	Gly	Gly	Ser	Glu	His	Met	Ile	Asp	Ile	Asn	Ser	Ala
145					150				155						160
Pro	Asn	Lys	Lys	Leu	Arg	Trp	Glu	Lys	Thr	Gln	Ser	Val	Asn	Val	Gly
			165					170						175	
Leu	Asp	Phe	Ser	Val	Leu	Asn	Gln	Ala	Leu	Asn	Leu	Ser	Val	Asp	Tyr
			180					185					190		
Tyr	Tyr	Arg	Lys	Gly	Thr	Asp	Leu	Phe	Arg	Ser	Ser	Asn	Asp	Ser	Thr
		195					200					205			

<210> 5544  
 <211> 857  
 <212> PRT  
 <213> B.fragilis

<400> 5544

Thr	Tyr	Gly	Trp	Gln	His	Pro	Lys	Arg	Val	Gln	Thr	Ser	Gln	Ser	Phe
1				5					10					15	
Cys	Leu	Asn	Trp	Tyr	Arg	His	Ser	Met	Leu	Gln	Asp	Lys	Leu	Ser	Ala
		20						25					30		
Pro	Arg	His	Gln	Glu	Pro	Lys	Cys	Leu	Phe	Leu	Gln	Met	Arg	Gln	His
		35					40					45			
Leu	Thr	Ser	Asn	Lys	Glu	Ser	Leu	Phe	Gly	Ser	Lys	Pro	Thr	Ala	Gln
	50					55					60				
Arg	Phe	Val	Leu	Pro	Lys	Cys	Pro	Phe	Trp	Gln	Ala	Ile	Leu	Cys	Leu
65					70					75				80	
Gln	Val	Leu	Ser	Tyr	Tyr	Leu	Ile	Leu	Leu	Ile	His	Ala	Gln	Lys	Tyr
			85						90					95	
Lys	Lys	Arg	Lys	Arg	Thr	Pro	Tyr	Lys	Thr	Arg	Lys	Lys	Thr	Ile	Phe
		100						105					110		
Thr	Asp	Asp	Lys	Phe	Glu	Leu	Leu	Met	Glu	Arg	Asp	Glu	Phe	Phe	Thr
		115					120					125			
Lys	Glu	Glu	Arg	Glu	Leu	Leu	Phe	Ser	Leu	Tyr	Lys	Lys	Leu	Leu	Arg
	130					135					140				
Leu	Thr	Gly	Glu	Thr	Leu	Gln	Lys	Gly	Asp	Cys	Arg	Lys	Leu	Lys	Lys
145					150					155					160
His	Leu	Ile	Asp	Ser	Thr	Gln	Asn	Asn	Thr	Met	Gln	Arg	Asp	Ser	Phe



Met Met Arg Leu Ile Lys Arg Leu Gly Phe Lys Asn Val Thr Glu Phe  
 645 650 655  
 Tyr Gln Lys Ile Ala Asp Glu Val Leu Asp Val Asn Asp Ile Leu Asp  
 660 665 670  
 Lys Tyr Ile Glu Gln Gln Lys Arg Asp Ser Glu Arg Asp Glu Val Thr  
 675 680 685  
 Tyr Arg Ser Ala Glu Glu Tyr Asn Leu Gln Asn Gln Ile Asp Glu Thr  
 690 695 700  
 Thr Val Thr Lys Glu Asp Val Leu Val Ile Asp Gln Asn Leu Lys Gly  
 705 710 715 720  
 Leu Asp Phe Lys Leu Ala Lys Cys Cys Asn Pro Ile Tyr Gly Asp Asp  
 725 730 735  
 Val Phe Gly Phe Val Thr Val Ser Gly Gly Ile Lys Ile His Arg Asn  
 740 745 750  
 Asp Cys Pro Asn Ala Gly Gln Met Arg Glu Arg Phe Gly Tyr Arg Ile  
 755 760 765  
 Val Lys Ala Arg Trp Ala Gly Lys Ser Glu Gly Thr Gln Tyr Pro Ile  
 770 775 780  
 Thr Leu Arg Val Val Gly His Asp Asp Ile Gly Ile Val Thr Asn Ile  
 785 790 795 800  
 Thr Ser Ile Ile Ser Lys Glu Asn Gly Ile Ser Leu Arg Ser Ile Gly  
 805 810 815  
 Ile Asp Ser Asn Asp Gly Leu Phe Ser Gly Thr Leu Thr Ile Met Val  
 820 825 830  
 Ser Asp Thr Gly Arg Leu Glu Ala Leu Ile Lys Lys Leu Arg Thr Val  
 835 840 845  
 Lys Gly Val Lys Gln Val Ser Arg Asn  
 850 855

&lt;210&gt; 5545

&lt;211&gt; 492

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5545

Tyr Ser Leu Leu Met Ile Phe Thr Ala Glu Asn Ile Leu Leu Ile Gly  
 1 5 10 15  
 Ser Ile Leu Leu Phe Val Ser Ile Val Val Gly Lys Thr Gly Tyr Arg  
 20 25 30  
 Phe Gly Val Pro Ala Leu Leu Leu Phe Leu Leu Val Gly Met Leu Phe  
 35 40 45  
 Gly Ser Asp Gly Leu Gly Leu Gln Phe His Asn Ala Lys Ile Ala Gln  
 50 55 60  
 Phe Ile Gly Met Val Ala Leu Ser Val Ile Leu Phe Ser Gly Gly Met  
 65 70 75 80  
 Asp Thr Lys Phe Lys Glu Ile Arg Pro Ile Leu Ser Pro Gly Ile Val  
 85 90 95  
 Leu Ser Thr Val Gly Val Phe Leu Thr Ala Leu Phe Thr Gly Leu Phe  
 100 105 110  
 Ile Trp Tyr Leu Ser Gly Met Ser Trp Thr Asn Ile His Phe Pro Leu  
 115 120 125  
 Ile Thr Ser Leu Leu Leu Ala Ser Thr Met Ser Ser Thr Asp Ser Ala  
 130 135 140  
 Ser Val Phe Ala Ile Leu Arg Ser Gln Lys Met Asn Leu Lys His Asn  
 145 150 155 160  
 Leu Arg Pro Met Leu Glu Leu Glu Ser Gly Ser Asn Asp Pro Met Ala  
 165 170 175  
 Tyr Met Leu Thr Ile Val Leu Ile Gln Phe Ile Gln Ser Asp Gly Met  
 180 185 190

Gly Thr Gly Asn Ile Ile Gly Ser Phe Ile Ile Gln Phe Leu Val Gly  
 195 200 205  
 Ala Ala Ala Gly Tyr Ile Leu Gly Lys Leu Ala Ile Leu Ile Leu Asn  
 210 215 220  
 Lys Ile Asn Ile Asp Asn Gln Ser Leu Tyr Pro Ile Leu Leu Leu Ser  
 225 230 235 240  
 Phe Val Phe Phe Thr Phe Ala Ile Thr Asp Leu Leu Arg Gly Asn Gly  
 245 250 255  
 Tyr Leu Ala Val Tyr Ile Ala Gly Met Met Val Gly Asn His Lys Ile  
 260 265 270  
 Thr Phe Arg Lys Glu Ile Ala Thr Phe Met Asp Gly Leu Thr Trp Leu  
 275 280 285  
 Phe Gln Ile Ile Met Phe Leu Met Leu Gly Leu Leu Val Asn Pro His  
 290 295 300  
 Glu Met Ile Glu Val Ala Val Val Ala Leu Leu Ile Gly Val Phe Met  
 305 310 315 320  
 Ile Val Ile Gly Arg Pro Leu Ser Val Phe Leu Cys Leu Leu Pro Phe  
 325 330 335  
 Arg Lys Ile Thr Leu Lys Ser Arg Leu Phe Val Ser Trp Val Gly Leu  
 340 345 350  
 Arg Gly Ala Val Pro Ile Ile Phe Ala Thr Tyr Pro Val Val Ala Asn  
 355 360 365  
 Val Glu Gly Ser Asn Met Ile Phe Asn Ile Val Phe Phe Ile Thr Ile  
 370 375 380  
 Val Ser Leu Ile Val Gln Gly Thr Ser Val Ser Phe Val Ala Arg Leu  
 385 390 395 400  
 Leu His Leu Ser Thr Pro Leu Glu Lys Thr Gly Asn Asp Phe Gly Val  
 405 410 415  
 Glu Leu Pro Glu Glu Ile Asp Thr Asp Leu Ser Asp Met Thr Ile Thr  
 420 425 430  
 Met Glu Met Leu Asn Glu Ala Asp Thr Leu Lys Asp Met Asn Leu Pro  
 435 440 445  
 Lys Gly Thr Leu Val Met Ile Val Lys Arg Gly Asp Glu Phe Leu Ile  
 450 455 460  
 Pro Asn Gly Thr Leu Lys Leu His Val Gly Asp Lys Leu Leu Leu Ile  
 465 470 475 480  
 Ser Glu Lys Asn Lys Gln Glu Thr Val Lys Asn Glu  
 485 490

&lt;210&gt; 5546

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5546

Leu Leu Met Leu Phe Thr Gln Gln Val Val His Ser Leu Tyr Arg Ile  
 1 5 10 15  
 Glu Ser Gly Lys Trp Asn Leu His Lys Tyr Arg Thr Pro Ile Ala His  
 20 25 30  
 Ser Thr Ile Pro Gln Thr Gly Lys Phe Lys Ser Phe Gln Ile Leu Thr  
 35 40 45  
 Thr Leu Arg Leu Ile Arg Asp Glu Ala Gly Ser Phe Ile His Ile Phe  
 50 55 60  
 Arg Gln Ile Lys Phe Met Thr Leu Ile Ile Thr Tyr Gly Ala Asn Gln  
 65 70 75 80  
 Ile Asp Arg Val Glu Val Arg Thr Leu Phe Lys His Phe Leu Cys Phe  
 85 90 95  
 Arg Ile Ile His Ile Asp Leu  
 100

<210> 5547  
 <211> 415  
 <212> PRT  
 <213> B.fragilis

<220>  
 <221> UNSURE  
 <222> (158)  
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 5547  
 His Ser Trp Arg Ser Ile Trp Ala Ile Leu Tyr Met Lys Ala Gly Phe  
 1 5 10 15  
 Ser Ser Phe Ser Ser Gly Ile Arg Asn Leu Gln Arg Asn Gln Lys Asn  
 20 25 30  
 Met Lys Gln Leu Arg Asn Ile Val Ala Gly Met Leu Val Leu Ile Gly  
 35 40 45  
 Gly Met Leu Pro Ala Thr Thr Phe Ala Gln Glu Pro Val Pro Gly Asp  
 50 55 60  
 Thr Thr Gly Thr Leu Gln His Glu Ile Ile Val Gly Lys Asp Thr Ile  
 65 70 75 80  
 Asn Gln Glu Ala Asn Gln Val Asp Val Lys Gly Ile Val Phe Gly Pro  
 85 90 95  
 Ile Gly Asp Ser Tyr Glu Trp His Ile Thr Asn Ile Gly Lys Thr Ser  
 100 105 110  
 Ile Cys Ile Pro Leu Arg Leu Ile Val Tyr Ser Glu Leu Ser Gly Trp  
 115 120 125  
 His Ala Phe Leu Ser Ser Arg Leu Glu Glu Asn Gly Gly Lys Tyr Glu  
 130 135 140  
 Gly Phe Tyr Ile Ala Pro Ala Gly Ser Lys Tyr Glu Gly Xaa Val Val  
 145 150 155 160  
 Glu Arg Asn Ala Thr Gly Glu Glu Val Arg Pro Trp Asp Ile Ser Ile  
 165 170 175  
 Thr Lys Val Thr Leu Ser Leu Phe Ile Asn Ser Ala Ile Leu Leu Ala  
 180 185 190  
 Ile Ile Leu Ser Val Ala His Trp Tyr Arg Lys Arg Glu Gln Gly Ala  
 195 200 205  
 Tyr Ala Pro Gly Gly Phe Ile Gly Phe Met Glu Met Phe Ile Met Met  
 210 215 220  
 Val His Asp Asp Val Ile Lys Ser Cys Val Gly Pro Asn Tyr Lys Lys  
 225 230 235 240  
 Phe Ala Pro Tyr Leu Leu Thr Ala Phe Phe Phe Ile Phe Ile Asn Asn  
 245 250 255  
 Ile Met Gly Leu Ile Pro Ile Phe Pro Gly Gly Ala Asn Val Thr Gly  
 260 265 270  
 Asn Ile Ala Ile Thr Leu Val Leu Ala Leu Phe Thr Phe Val Ile Val  
 275 280 285  
 Asn Ile Phe Gly Thr Lys His Tyr Trp Lys Asp Ile Phe Trp Pro Asp  
 290 295 300  
 Val Pro Trp Trp Leu Lys Val Pro Ile Pro Met Met Pro Phe Ile Glu  
 305 310 315 320  
 Phe Phe Gly Val Phe Thr Lys Pro Phe Ala Leu Met Ile Arg Leu Phe  
 325 330 335  
 Ala Asn Met Leu Ser Gly His Met Ala Met Leu Val Leu Thr Cys Leu  
 340 345 350  
 Ile Phe Ile Ser Ala Ser Met Gly Pro Ala Ile Asn Gly Ser Leu Thr  
 355 360 365  
 Val Ala Ser Val Leu Phe Asn Ile Phe Met Asn Leu Leu Glu Val Leu

370	375	380
Val Ala Phe Ile Gln Ala	Tyr Val Phe Thr Met	Leu Ser Ala Val Phe
385	390	395
Ile Gly Leu Ala Gln Glu	Gly Gly Lys Lys Glu	Glu Val Lys Glu
405	410	415

<210> 5548  
 <211> 885  
 <212> PRT  
 <213> B.fragilis

<400> 5548

Val	Leu	Ile	Arg	Phe	Asn	Met	Arg	Leu	Lys	Thr	Ile	Leu	Leu	Thr	Thr
1				5					10					15	
Met	Ala	Thr	Gly	Ser	Phe	Leu	Cys	Glu	Pro	Val	Ala	Ala	Met	Cys	Ile
		20						25					30		
Glu	Pro	Pro	Ala	Thr	Pro	Asp	Met	Gly	Trp	Phe	Leu	Lys	Lys	Lys	Lys
		35				40						45			
Lys	Ser	Asn	Pro	Gln	Asp	Ser	Ile	Lys	Val	Lys	Asn	Glu	Tyr	Glu	Lys
	50				55						60				
Leu	Thr	Gly	Ser	Asp	Ser	Val	Val	Arg	Arg	Gly	Met	Phe	Asn	Val	Tyr
65				70					75						80
Gln	Lys	Lys	Asn	Asp	Tyr	Tyr	Phe	Glu	Ile	Pro	Ser	Thr	Leu	Leu	Gly
			85					90					95		
Arg	Asp	Met	Leu	Val	Val	Asn	Lys	Leu	Gln	Arg	Val	Pro	Ala	Glu	Leu
		100						105					110		
Asn	Glu	Ala	Gly	Val	Asn	Arg	Gly	Thr	Asn	Tyr	Glu	Asn	Gln	Met	Ile
	115						120					125			
Arg	Phe	Glu	Leu	Asp	Lys	Ser	Ala	Asn	Lys	Leu	Leu	Ile	Arg	Gln	Ser
	130				135						140				
Arg	Pro	Leu	Pro	Ile	Ser	Pro	Ser	Glu	Asp	Ala	Ile	Ser	Gln	Ser	Val
145				150					155						160
Lys	Asp	Asn	Tyr	Ile	Ser	Pro	Leu	Ile	Ala	Gly	Phe	Lys	Val	Glu	Ala
			165					170					175		
Tyr	Asn	Asn	Asp	Ser	Thr	Ser	Ile	Leu	Ile	Lys	Val	Asn	Asp	Ile	Tyr
		180					185						190		
Asp	Gly	Thr	Glu	Thr	Ser	Ile	Asn	Asn	Val	Phe	Thr	Asn	Ile	Asn	Leu
	195						200					205			
Gly	Thr	Ser	Ala	Ile	Lys	Asn	Leu	Ser	Arg	Ile	Leu	Ser	Ile	Lys	Ser
	210				215						220				
Phe	Asp	Asn	Asn	Val	Val	Ala	Thr	Ser	Glu	Leu	Thr	Thr	Arg	Val	Thr
225				230						235					240
Glu	Gly	Thr	Thr	Thr	Ile	Tyr	Val	Thr	Val	Glu	Val	Ser	Ser	Ser	Ile
			245						250					255	
Leu	Leu	Leu	Pro	Glu	Val	Pro	Met	Thr	Gly	Arg	Leu	Asp	Asn	Pro	Arg
		260					265						270		
Val	Gly	Tyr	Phe	Thr	Asn	Pro	Leu	Thr	Asn	Phe	Ser	Asp	Gly	Gln	Gln
	275					280						285			
Arg	Val	Asn	Lys	Lys	Gln	Phe	Ile	Thr	Arg	Trp	Arg	Leu	Glu	Pro	Arg
	290				295						300				
Pro	Glu	Asp	Arg	Ala	Ala	Tyr	Leu	Arg	Gly	Glu	Leu	Val	Glu	Pro	Arg
305				310						315					320
Lys	Pro	Ile	Val	Phe	Tyr	Ile	Glu	Asn	Ser	Thr	Pro	Tyr	Arg	Trp	Arg
			325						330					335	
Lys	Tyr	Ile	Lys	Gln	Gly	Ile	Glu	Asp	Trp	Gln	Val	Ala	Phe	Glu	Arg
		340						345					350		
Ala	Gly	Phe	Lys	Asn	Ala	Ile	Ile	Ala	Lys	Asp	Ile	Thr	Glu	Asp	Met
	355					360						365			
Glu	Val	Asp	Met	Asp	Asp	Val	Asn	Tyr	Ser	Val	Leu	Thr	Tyr	Ala	Ala

370	375	380
Ser Thr Lys Ala Asn	Ala Met Gly Pro Ser	Ile Leu Asp Pro Arg Ser
385	390	395
Gly Glu Ile Leu Glu	Ala Asp Ile Met Trp	Trp His Asn Val Leu Ser
405	410	415
Met Leu Gln Glu Trp	Ile Thr Val Gln Thr	Gly Val Val Arg Pro Glu
420	425	430
Ala Arg Gly Val Ala	Leu Pro Asp Ser Leu	Met Gly Asp Ala Met Arg
435	440	445
Phe Val Ala Cys His	Glu Val Gly His Ser	Leu Gly Leu Arg His Asn
450	455	460
Met Met Gly Ser Trp	Ala Phe Pro Thr Asp	Ser Leu Arg Ser Lys Thr
465	470	475
Phe Thr Asp Arg Met	Asn Ser Thr Ser Ser	Ser Ile Met Asp Tyr Ala
485	490	495
Arg Phe Asn Tyr Val	Ala Gln Pro Gly Asp	Gly Ile Lys Ala Leu Ser
500	505	510
Pro His Ile Gly Pro	Tyr Asp Met Phe Ala	Ile Glu Tyr Gly Tyr Arg
515	520	525
Trp Tyr Gly Lys Gln	Thr Pro Glu Glu Glu	Lys Glu Leu Leu Gln Asp
530	535	540
Phe Leu Ala Lys His	Thr Asp Arg Leu Tyr	Lys Tyr Ser Glu Ala Gln
545	550	555
Asp Pro Arg Asp Ala	Val Asp Pro Arg Ala	Gln Asn Glu Asp Leu Gly
565	570	575
Asp Asp Pro Ile Arg	Ser Ser Gln Tyr Gly	Ile Ala Asn Leu Lys Cys
580	585	590
Ile Val Pro Gln Ile	Ile Gln Trp Thr Thr	Thr Thr Gly Glu Lys Gly Gln
595	600	605
Thr Tyr Glu Glu Ala	Ser Arg Leu Tyr Tyr	Ala Val Ile Asn Gln Trp
610	615	620
Asn Asn Tyr Leu Tyr	His Val Met Ala Asn	Ile Gly Gly Ile Tyr Ile
625	630	635
Glu Asn Thr Thr Val	Gly Asp Gly Glu Lys	Thr Tyr Thr Phe Val Glu
645	650	655
Lys Glu Lys Gln Gln	Ala Ala Leu Arg Phe	Leu Leu Asp Glu Val Leu
660	665	670
Cys Tyr Pro Lys Trp	Leu Phe Asp Pro Glu	Ile Ala Gln Tyr Thr Tyr
675	680	685
Leu Leu Lys Asn Thr	Pro Leu Gly Val Val	Glu Asn Ala Pro Thr Gln
690	695	700
Val Leu Lys Asn Ala	Gln Ala Tyr Val Phe	Trp Asp Leu Leu Ser Asn
705	710	715
Asn Arg Leu Met Arg	Met Leu Glu Asn Glu	Ser Val Asn Gly Lys Lys
725	730	735
Ala Phe Thr Ala Val	Glu Leu Met Asp Gly	Leu His Lys Ser Ile Phe
740	745	750
Ala Val Thr Glu Arg	Gly Gly Leu Pro Asp	Val Met Thr Arg Asn Leu
755	760	765
Gln Lys Gly Phe Val	Asp Ala Leu Ile Thr	Ala Ala Glu Ser Glu
770	775	780
Gly Val Lys Val Asn	Lys Lys Leu Ile Asp	Asn His Phe Leu Phe Asp
785	790	795
Phe Gln Thr Pro Ile	Cys Ser Cys Asp Asp	His Ala His Arg Ser Ala
805	810	815
His Thr Asp Arg Met	Gly Ala Arg Arg Glu	Leu Asn Phe Tyr Gly Ser
820	825	830
Gln Ile Asn Arg Ile	Ser Asp Ala Ile Ser	Val Lys Arg Gly Glu Leu
835	840	845

Leu Arg Ile Lys Asp Leu Leu Gln Ser Arg Leu Gly Thr Ser Asp Val  
 850 855 860  
 Ala Thr Lys Tyr His Tyr Lys Asp Leu Ile Leu Arg Ile Asn Thr Ala  
 865 870 875 880  
 Leu Gly Ile Ser Lys  
 885

<210> 5549

<211> 310

<212> PRT

<213> B.fragilis

<400> 5549

Asn Thr Asn Arg Ala Asp Met Arg Gln Leu Tyr Tyr Thr Phe Arg Thr  
 1 5 10 15  
 Leu Leu Arg Gly Arg Gly Gly Asn Leu Thr Lys Ile Ile Ser Leu Thr  
 20 25 30  
 Leu Gly Leu Leu Val Gly Ile Leu Leu Phe Ala Arg Val Ala Phe Glu  
 35 40 45  
 Leu Asn Tyr Asp Ser Tyr Tyr Gln Glu Pro Glu Asn Leu Phe Leu Thr  
 50 55 60  
 Leu Arg Thr Val Val Ser Gln Gly Glu Lys Lys Glu Pro Val Cys Ser  
 65 70 75 80  
 Asn Tyr Gly Lys Leu Pro Ala Ala Ile Arg Glu Asn Phe Pro Asp Glu  
 85 90 95  
 Val Glu Asp Ala Thr Leu Ile Asp Leu Phe Ser Arg Ser Ser Leu Tyr  
 100 105 110  
 His Glu Gly Gln Glu Lys Lys Asp Ala Ile Leu Ala Thr Ser Arg Ser  
 115 120 125  
 His Ile Phe Ser Thr Leu Gly Val Lys Val Leu Ser Gly Asn Val Ser  
 130 135 140  
 Glu Leu Asp Asn Met Asp Ala Leu Phe Ile Ser Arg Ser Leu Ala Gln  
 145 150 155 160  
 Ser Leu Phe Ala Asp Ala Asp Pro Ile Gly Lys Thr Val Met Ile Asn  
 165 170 175  
 Ile Asp Tyr Pro Leu Thr Val Arg Gly Val Phe Glu Asp Ile Pro Glu  
 180 185 190  
 Asn Ala Glu Phe Arg Phe Asp Gly Val Tyr Ser Phe Val Thr Arg Ala  
 195 200 205  
 Asn Arg Phe Arg Asp Glu Arg Gly Gly Trp Arg Gly Asp Ile Ser Tyr  
 210 215 220  
 Thr Cys Met Val Arg Phe Arg His Pro Glu Asp Val Glu Lys Val Ala  
 225 230 235 240  
 Ala Arg Met Pro Asp Met Leu Lys Lys Tyr Ile Gln Tyr Asn Lys Asp  
 245 250 255  
 Trp Phe Glu Glu Phe Ser Phe Ile Thr Pro Ser Gln Phe His Leu Gln  
 260 265 270  
 Lys Lys Glu Ser Arg Lys Ile Ile Ser Ile Leu Ser Ile Leu Gly Phe  
 275 280 285  
 Ala Ile Leu Leu Ile Ala Gly Met Asn Asn Val Leu Asp Phe Tyr Phe  
 290 295 300  
 Ile Ile Gly Ser Thr Ser  
 305 310

<210> 5550

<211> 132

<212> PRT

<213> B.fragilis



&lt;400&gt; 5550

Gln Lys Leu Arg Met Glu Lys Phe Ser Thr Arg Lys Arg Ile Arg Ser  
 1 5 10 15  
 Phe Gly Tyr Ala Trp Lys Gly Ile Arg Ser Phe Val Ser Lys Glu His  
 20 25 30  
 Asn Ala Trp Ile His Cys Thr Ala Ile Ile Ile Val Thr Val Ala Gly  
 35 40 45  
 Phe Cys Phe Gly Ile Thr Arg Asn Glu Trp Met Ala Ile Ile Leu Cys  
 50 55 60  
 Phe Gly Val Val Leu Ala Ala Glu Gly Phe Asn Thr Ala Ile Glu Arg  
 65 70 75 80  
 Leu Val Asn Leu Val Ser Pro Glu Arg Asn Pro Ile Ala Gly Asp Val  
 85 90 95  
 Lys Asp Ile Ala Ala Gly Ser Val Leu Ile Cys Ala Ile Val Ala Ala  
 100 105 110  
 Ile Val Gly Ile Ile Ile Phe Met Pro Tyr Val Leu Ala Val Leu Leu  
 115 120 125  
 Cys Asn Met Gly  
 130

&lt;210&gt; 5551

&lt;211&gt; 511

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5551

Tyr Ile Lys Arg Leu Leu Met Ser Gln Ile Ile Gly His Ile Ser Gln  
 1 5 10 15  
 Val Ile Gly Pro Val Val Asp Val Tyr Phe Glu Gly Thr Glu Ser Asp  
 20 25 30  
 Leu Ile Leu Pro Ser Ile His Asp Ala Leu Glu Ile Lys Arg His Asn  
 35 40 45  
 Gly Lys Lys Leu Ile Val Glu Val Gln Gln His Ile Gly Glu Asn Thr  
 50 55 60  
 Val Arg Thr Val Ala Met Asp Ser Thr Asp Gly Leu Gln Arg Gly Met  
 65 70 75 80  
 Lys Val Phe Pro Thr Gly Gly Pro Ile Thr Met Pro Val Gly Glu Gln  
 85 90 95  
 Ile Lys Gly Arg Leu Met Asn Val Val Gly Asp Ser Ile Asp Gly Met  
 100 105 110  
 Lys Glu Leu Asn Arg Asp Gly Ala Tyr Ser Ile His Arg Asp Pro Pro  
 115 120 125  
 Lys Phe Glu Asp Leu Thr Thr Val Gln Glu Val Leu Phe Thr Gly Ile  
 130 135 140  
 Lys Val Ile Asp Leu Leu Glu Pro Tyr Ser Lys Gly Gly Lys Ile Gly  
 145 150 155 160  
 Leu Phe Gly Gly Ala Gly Val Gly Lys Thr Val Leu Ile Met Glu Leu  
 165 170 175  
 Ile Asn Asn Ile Ala Lys Lys His Asn Gly Phe Ser Val Phe Ala Gly  
 180 185 190  
 Val Gly Glu Arg Thr Arg Glu Gly Asn Asp Leu Leu Arg Glu Met Ile  
 195 200 205  
 Glu Ser Gly Val Ile Arg Tyr Gly Glu Ala Phe Lys Glu Ser Met Glu  
 210 215 220  
 Lys Gly His Trp Asp Leu Ser Lys Val Asp Tyr Asn Glu Val Glu Lys  
 225 230 235 240  
 Ser Gln Ala Thr Leu Val Phe Gly Gln Met Asn Glu Pro Pro Gly Ala  
 245 250 255  
 Arg Ala Ser Val Ala Leu Ser Gly Leu Thr Val Ala Glu Ser Phe Arg

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	260		265		270
Asp Met Gly	Ala Lys Ser Gly	Ala Arg Asp Ile Leu Phe	Phe Ile Asp		
	275	280	285		
Asn Ile Phe	Arg Phe Thr Gln	Ala Gly Ser Glu Val Ser	Ala Leu Leu		
	290	295	300		
Gly Arg Met	Pro Ser Ala Val	Gly Tyr Gln Pro Thr	Leu Ala Thr Glu		
305	310	315	320		
Met Gly Ala	Met Gln Glu Arg	Ile Thr Ser Thr	Lys Thr Gly Ser Ile		
	325	330	335		
Thr Ser Val	Gln Ala Val Tyr	Val Pro Ala Asp	Asp Leu Thr Asp Pro		
	340	345	350		
Ala Pro Ala	Thr Thr Phe Thr	His Leu Asp Ala	Thr Thr Val Leu Ser		
	355	360	365		
Arg Lys Ile	Thr Glu Leu Gly	Ile Tyr Pro Ala	Val Asp Pro Leu Glu		
	370	375	380		
Ser Thr Ser	Arg Ile Leu Asp	Pro His Ile Val	Gly Gln Glu His Tyr		
385	390	395	400		
Asp Val Ala	Gln Arg Val Lys	Gln Ile Leu Gln	Arg Asn Lys Glu Leu		
	405	410	415		
Gln Asp Ile	Ile Ser Ile Leu	Gly Met Glu Glu	Leu Ser Asp Ala Asp		
	420	425	430		
Arg Leu Val	Val Asn Arg Ala	Arg Arg Val Gln	Arg Phe Leu Ser Gln		
	435	440	445		
Pro Phe Thr	Val Ala Glu Gln	Phe Thr Gly Val	Pro Gly Ala Met Val		
	450	455	460		
Ala Ile Glu	Asp Thr Ile Lys	Gly Phe Lys Met	Ile Leu Asp Gly Glu		
465	470	475	480		
Val Asp Tyr	Leu Pro Glu Pro	Ala Phe Leu Asn	Val Gly Thr Ile Glu		
	485	490	495		
Glu Ala Ile	Glu Lys Gly Lys	Lys Leu Leu Glu	Gln Ala Asn Lys		
	500	505	510		

&lt;210&gt; 5552

&lt;211&gt; 602

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5552

Gln Met Lys	Arg His Val Phe	Ile Leu Leu Leu	Ser Phe Ala Gly	Val
1	5	10	15	
Leu Thr Ser	Ala Phe Ala Ala	Ser Arg Gln Val	Gln Gly Val Val	Ile
	20	25	30	
Ser Ser Glu	Asp Asn Met Pro	Leu Ile Gly Ala	Ser Val Tyr Ile	Lys
	35	40	45	
Ala Glu Asp	Leu Ser Lys Asp	Gly Asn Ser Pro	Thr Ile Thr Gly	Val
	50	55	60	
Ile Thr Asp	Ile Asp Gly Lys	Phe Asn Ile Ser	Val Pro Glu Gly	Val
65	70	75	80	
Thr Arg Leu	Phe Cys Ser Tyr	Val Gly His Glu	Val Gln Glu Leu	Lys
	85	90	95	
Leu Val Pro	Gly Lys Asp Gln	Tyr Glu Ile Thr	Leu Phe Pro Ser	Ala
	100	105	110	
Gln Met Leu	Asp Ala Val Val	Val Thr Gly Tyr	Gln Thr Val Glu	Arg
	115	120	125	
Arg Lys Leu	Thr Ala Ala Val	Gly Lys Leu Asn	Ile Ser Asp Glu	Thr
	130	135	140	
Ile Gly Ala	Val Lys Ser Ile	Asp Gln Ala Leu	Ala Gly Gln Ile	Ala
145	150	155	160	
Gly Leu Ser	Val Thr Ser Thr	Ser Gly Ala Pro	Gly Ala Pro Ala	Lys

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      165      170      175
Ile Arg Ile Arg Gly Thr Ser Ser Leu Asn Gly Thr Gln Asp Pro Leu
      180      185      190
Trp Val Leu Asp Gly Ile Pro Leu Glu Gly Thr Asp Val Pro Gln Ser
      195      200      205
Asn Val Leu Asn Asp Val Ser Asn Ile Gln Gln Ser Ser Ile Ala Gly
      210      215      220
Leu Asn Pro Ala Asp Ile Glu Asn Ile Thr Val Leu Lys Asp Ala Ala
      225      230      235      240
Ala Thr Ala Ile Tyr Gly Ala Arg Ala Ala Asn Gly Val Ile Val Ile
      245      250      255
Thr Thr Lys Lys Gly Lys Val Gly Lys Pro Val Ile Asn Phe Ser Ser
      260      265      270
Lys Phe Thr Tyr Met Pro Thr Leu Ser Thr Asn Arg Leu Asn Met Leu
      275      280      285
Asn Ser Gln Glu Lys Val Asp Leu Glu Leu Glu Leu Leu Arg Ser Asn
      290      295      300
Phe Ala Tyr Gly Asp Asn Lys Gly Gly Val Ser Lys Ile Ile Ser Gly
      305      310      315      320
Tyr Gly Leu Thr Asp Ala Tyr Lys Lys Gly Gly Trp Ser Ala Leu Thr
      325      330      335
Pro Glu Ala Gln Thr Asp Ile Ser Arg Leu Arg Asn Thr Glu Thr Asp
      340      345      350
Trp Gly Asp Ile Leu Phe Arg Asp Ala Phe Asn Gln Glu Tyr Ser Leu
      355      360      365
Ser Leu Ser Gly Gly Asn Glu Arg Val Thr Tyr Tyr Thr Ser Ile Gly
      370      375      380
Tyr Tyr Gln Glu Asn Gly Asn Val Lys Gly Val Gly Leu Asp Arg Leu
      385      390      395      400
Asn Ile Val Ala Lys Thr Ser Tyr Lys Val Asn Arg Met Leu Lys Phe
      405      410      415
Gly Val Ser Leu Phe Val Asn Arg Arg Asn Asn Lys Thr Tyr Leu Thr
      420      425      430
Asp Thr Tyr Gly Leu Val Asn Pro Val Tyr Tyr Ser Arg Lys Ala Asn
      435      440      445
Pro Tyr Tyr Gln Pro Phe Asp Val Asn Gly Asn Tyr Val Tyr Asp Phe
      450      455      460
Asp Val Gln Asn Asn Ser Asp Thr Asp Leu Gly Phe Asn Ile Phe Glu
      465      470      475      480
Glu Arg Lys Asn Thr Ser Asn Glu Glu Thr Ile Asn Ala Leu Ser Ser
      485      490      495
Ile Phe Asp Ala Glu Leu Arg Phe Asn Asp Lys Leu Lys Phe Thr Thr
      500      505      510
Gln Leu Gly Leu Gln Leu Asp Lys Ala Ser Lys Glu Gln Ile Ala Asp
      515      520      525
Lys Glu Ser Phe Ser Met Arg Ile Ile Arg Lys Asn Ser Lys Tyr Trp
      530      535      540
Asp Ser Ala Ser Gln Ser Asn Lys Tyr Phe Ile Pro Asp Gly Gly Val
      545      550      555      560
His Lys Ala Tyr Glu Asn Thr Asn Ser Gln Ile Thr Trp Lys Ala Met
      565      570      575
Gly Glu Tyr Arg Asp Ser Phe Asn Asp Ile His Glu Leu Glu Val Met
      580      585      590
Val Gly Thr Glu Leu Arg Lys His Leu Val
      595      600

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&lt;210&gt; 5553

&lt;211&gt; 530

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5553

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Phe Phe Ser Gly Phe Cys Arg Val Ser Ser Ser Phe Phe Cys Ile Phe
1      5      10      15
Gly His Glu Leu Ile Lys Leu Asp Ser Met Ile Thr Pro Glu Asp Lys
20      25      30
Glu Leu Leu Ala Lys Lys Gly Ile Ser Glu Val Gln Ile Ala Glu Gln
35      40      45
Leu Ala Cys Phe Gln Lys Gly Phe Pro Tyr Leu Lys Leu Asp Ala Ala
50      55      60
Ala Ser Val Glu Lys Gly Ile Leu Ala Pro Asp Ala Glu Glu Gln Lys
65      70      75      80
Ala Tyr Leu Ala Ala Trp Asn Ala Tyr Thr Asn Ser Asp Lys Thr Ile
85      90      95
Val Lys Phe Val Pro Ala Ser Gly Ala Ala Ser Arg Met Phe Lys Asn
100     105     110
Leu Phe Glu Phe Leu Asp Ala Asp Tyr Thr Glu Pro Thr Thr Lys Phe
115     120     125
Glu Gln Thr Phe Phe Glu Ser Ile Glu Lys Phe Ala Phe Tyr Asp Asp
130     135     140
Leu Asn Thr Ala Cys Val Arg Thr Glu Gly Lys Gly Ile Pro Thr Leu
145     150     155     160
Ile Ala Glu Gly Asn Tyr Lys Ala Val Val Ser Gly Leu Leu Asn Val
165     170     175
Ala Gly Leu Asn Tyr Gly Ala Leu Pro Lys Gly Leu Leu Lys Phe His
180     185     190
Lys Tyr Glu Glu Gly Ser Arg Thr Pro Leu Glu Glu His Leu Ala Glu
195     200     205
Gly Ala Met Tyr Ala Ala Gly Lys Ser Gly Lys Val Asn Val His Phe
210     215     220
Thr Val Ser Thr Glu His Arg Glu Leu Phe Lys Ser Leu Val Thr Glu
225     230     235     240
Lys Val Asp Ala Phe Ala Lys Arg Tyr Gly Val Asp Tyr Asn Ile Thr
245     250     255
Phe Ser Glu Gln Lys Pro Ser Thr Asp Thr Ile Ala Ala Asp Met Glu
260     265     270
Asn Gln Pro Phe Arg Asp Asn Gly Lys Leu Leu Phe Arg Pro Gly Gly
275     280     285
His Gly Ala Leu Ile Glu Asn Leu Asn Asp Leu Asp Ala Asp Val Ile
290     295     300
Phe Ile Lys Asn Ile Asp Asn Val Val Pro Asp Lys Leu Lys Gly Asp
305     310     315     320
Thr Val Leu Tyr Lys Lys Leu Ile Ala Gly Val Leu Val Ser Leu Gln
325     330     335
Lys Gln Ala Phe Gln Tyr Leu Glu Leu Leu Asp Ser Gly Arg Tyr Thr
340     345     350
His Glu Gln Val Met Asp Ile Leu Gln Phe Val Gln Lys Lys Leu Phe
355     360     365
Cys Lys Asn Pro Glu Thr Lys Asp Leu Glu Asp Ala Glu Leu Val Ile
370     375     380
Tyr Leu Lys Asn Lys Leu Asn Arg Pro Met Arg Val Cys Gly Met Val
385     390     395     400
Lys Asn Val Gly Glu Pro Gly Gly Gly Pro Phe Leu Ala Tyr Asn Ser
405     410     415
Asp Gly Thr Ile Ser Leu Gln Ile Leu Glu Ser Ser Gln Ile Asp Met
420     425     430
Asn Asn Pro Glu Ala Lys Glu Met Phe Glu Lys Gly Thr His Phe Asn
435     440     445

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Pro Val Asp Leu Val Cys Ala Val Arg Asp Tyr Lys Gly His Lys Phe  
 450 455 460  
 Asp Leu Ala Lys Tyr Val Asp Lys Ala Thr Gly Phe Ile Ser Tyr Lys  
 465 470 475 480  
 Ser Lys Ser Gly Lys Asp Leu Lys Ala Leu Glu Leu Pro Gly Leu Trp  
 485 490 495  
 Asn Gly Ala Met Ser Asp Trp Ser Thr Val Phe Val Glu Val Pro Leu  
 500 505 510  
 Ser Thr Phe Asn Pro Val Lys Thr Val Asn Asp Leu Leu Arg Glu Gln  
 515 520 525  
 His Gln  
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<210> 5554

<211> 864

<212> PRT

<213> B.fragilis

<400> 5554

Leu Ile Ile Ile Leu Leu Ser Ser Phe Phe Cys Phe Asn Phe Val Ala  
 1 5 10 15  
 Lys Tyr Tyr Cys Met Glu Glu Asn His Glu Ile Glu Leu Ala Trp Gln  
 20 25 30  
 Val Ile Glu Asn Thr Gly Thr His Leu Phe Leu Thr Gly Lys Ala Gly  
 35 40 45  
 Thr Gly Lys Thr Thr Phe Leu Arg Arg Leu Lys Glu Leu Thr Pro Lys  
 50 55 60  
 Arg Met Val Val Val Ala Pro Thr Gly Ile Ala Ala Ile Asn Ala Gly  
 65 70 75 80  
 Gly Val Thr Ile His Ser Phe Phe Gln Leu Asn Phe Ala Pro Tyr Ile  
 85 90 95  
 Pro Glu Ser Thr Phe Asn Ser Ala Gln Gln Gly Phe His Lys Phe Gly  
 100 105 110  
 Lys Glu Lys Ile Asn Ile Ile Arg Ser Met Asp Leu Leu Val Ile Asp  
 115 120 125  
 Glu Ile Ser Met Val Arg Ala Asp Gln Leu Asp Ala Ile Asp Ala Val  
 130 135 140  
 Leu Arg Arg Tyr Arg Asp Arg Ser Lys Pro Phe Gly Gly Val Gln Leu  
 145 150 155 160  
 Leu Met Ile Gly Asp Leu Gln Gln Leu Ala Pro Val Val Lys Glu Glu  
 165 170 175  
 Asp Trp Ser Leu Leu Ser Ser Tyr Tyr Asp Thr Ala Phe Phe Phe Gly  
 180 185 190  
 Ser His Ser Leu Lys Glu Thr Glu Tyr Ile Thr Ile Glu Leu Lys Lys  
 195 200 205  
 Val Tyr Arg Gln Ser Asp Thr Glu Phe Val Gly Leu Leu Asn Lys Ile  
 210 215 220  
 Arg Glu Lys Glu Ala Asp Asp Ala Val Leu Glu Glu Leu Asn Lys Arg  
 225 230 235 240  
 Tyr Leu Pro Gly Phe Arg Pro Arg Glu Glu Gly Tyr Ile Arg Leu  
 245 250 255  
 Thr Thr His Asn Tyr Gln Ala Gln Gln Tyr Asn Asp Arg Gln Leu Leu  
 260 265 270  
 Ser Leu Ser Gly Arg Ala Phe Ser Phe Gln Ala Lys Val Glu Gly Thr  
 275 280 285  
 Phe Pro Glu Ser Ala Tyr Pro Ala Asp Glu Met Leu Thr Val Lys Glu  
 290 295 300  
 Gly Ala Gln Ile Met Phe Ile Lys Asn Asp Ser Ser Gly Glu His Arg  
 305 310 315 320

Tyr Tyr Asn Gly Met Ile Gly Leu Val Thr Ala Val Ser Lys Asp Gly  
 325 330 335  
 Ile Arg Val Lys Gly Asn Gly Glu Ser Gln Asp Phe Leu Leu Glu Thr  
 340 345 350  
 Glu Glu Trp Thr Asn Ser Lys Tyr Ser Leu Asn Pro Gln Thr Lys Glu  
 355 360 365  
 Ile Thr Glu Glu Val Glu Gly Thr Phe Arg Gln Tyr Pro Ile Arg Leu  
 370 375 380  
 Ala Trp Ala Ile Thr Ile His Lys Ser Gln Gly Leu Thr Phe Glu Arg  
 385 390 395 400  
 Ala Ile Ile Asp Ala Asn Ala Ser Phe Ala His Gly Gln Val Tyr Val  
 405 410 415  
 Ala Leu Ser Arg Cys Lys Ser Leu Gln Gly Leu Val Leu Ser Ser Pro  
 420 425 430  
 Leu Arg Arg Glu Ser Ile Ile Ser Asp Asp Thr Ile Asp Glu Phe Thr  
 435 440 445  
 Arg Asn Ala Gly Glu Met Thr Pro Asp Lys His Lys Leu Ala Leu Leu  
 450 455 460  
 Arg Gln His Tyr Phe Tyr Glu Leu Leu Cys Glu Gln Phe Asp Phe His  
 465 470 475 480  
 Pro Ile Glu Gln His Phe Leu Arg Leu Leu Arg Leu Leu Asp Glu His  
 485 490 495  
 Leu Tyr Arg Leu Tyr Pro Lys Leu Leu Glu Arg Tyr Lys Thr Thr Ala  
 500 505 510  
 Asp Leu Tyr Lys Thr Gln Ile Met Lys Val Ala Asp Thr Phe Lys Leu  
 515 520 525  
 Gln Tyr Ser Ala Leu Leu Met Glu Ala Glu Asp Tyr Thr Ala Asn Pro  
 530 535 540  
 Lys Leu Asn Glu Arg Val Met Ala Gly Ala His Tyr Phe Arg Gln His  
 545 550 555 560  
 Leu Glu Asp Leu Leu Thr Pro Leu Ile Thr Ser Thr Lys Val Glu Thr  
 565 570 575  
 Asp Asn Lys Glu Leu Lys Lys Lys Phe Ser Glu Ala Ala Asp Ala Met  
 580 585 590  
 Lys Thr Ala Leu His Val Lys Leu Gly Thr Leu Cys Tyr Thr Glu Lys  
 595 600 605  
 Glu Gly Phe Ser Val Ser Ala Phe Leu Lys Gln Lys Ala Val Leu Thr  
 610 615 620  
 Leu Ser Val Ser Gly Gly Glu Ala Ala Ser Ser Ser Gly Arg Ser Glu  
 625 630 635 640  
 Arg Lys Ser Arg Thr Ala Glu Lys Ile Glu Val Pro Thr Asp Ile Leu  
 645 650 655  
 His Pro Glu Leu Tyr Lys Gln Leu Ile Ala Trp Arg Asn Ser Glu Ala  
 660 665 670  
 Ala Lys Ala Gly Leu Pro Val Tyr Thr Ile Ile Gln Gln Lys Ala Ile  
 675 680 685  
 Leu Gly Ile Val Asn Leu Leu Pro Asn Asp Ala Ala Ser Leu Ile Arg  
 690 695 700  
 Ile Pro Tyr Phe Gly Lys Arg Gly Ala Glu Lys Tyr Gly Asp Ala Leu  
 705 710 715 720  
 Leu Glu Met Val Asn Arg Tyr Val Glu Glu His Gly Ile Glu Arg Pro  
 725 730 735  
 Gln Met Pro Thr Ala Thr Leu Thr Val Asn Asn Gly Ile Lys Thr Ser  
 740 745 750  
 Lys Glu Pro Lys Pro Leu Lys Glu Ala Lys Ser Val Lys Glu Pro Lys  
 755 760 765  
 Pro Asp Thr Lys Glu Val Thr Tyr Arg Leu Phe Arg Gln Gly Lys Ser  
 770 775 780  
 Ile Glu Glu Ile Ala Arg Glu Arg Glu Leu Val Ser Gly Thr Ile Ala

785		790		795		800
Gly His Leu Glu His Tyr Val Arg Ser Gly Glu Val Lys Ile Glu Gln						
	805			810		815
Leu Val Ala Arg Glu Lys Ile Thr Lys Ile Ile Arg Tyr Val Gln Ala						
	820		825		830	
His Gly Ser Asp Lys Gly Leu Thr Val Ile Lys Ala Ala Leu Gly Asp						
	835		840		845	
Asp Val Ser Tyr Ala Asp Ile Arg Leu Val Leu Ala Ala Gly Ile Lys						
	850		855		860	

&lt;210&gt; 5555

&lt;211&gt; 528

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5555

Ile Asn Pro Met Lys Asn Tyr Leu Gly Leu Ile Phe Leu Leu Phe Ala						
1	5			10		15
Phe Thr Ala Thr Ala Gln Asn Asn Arg Ser Ala Leu Leu Pro Met Pro						
	20		25		30	
Asn His Ile Glu Gln Val Gln Gly Lys Pro Phe Ser Leu Thr Gly Lys						
	35		40		45	
Asn Ile Thr Ile His Pro Gly Gln Pro Glu Leu Lys Phe Ala Ala Thr						
	50		55		60	
Thr Leu Gln Ser Ile Leu Lys Asp Arg Met Gln Val Asp Ile Pro Leu						
	65		70		75	80
Ser Gly Ser Arg Gln Ser Pro Ile Arg Leu Ile Ile Asp Pro Gln Leu						
		85		90		95
Glu Gly Lys Glu His Tyr Gln Leu Lys Val Asp Gln Lys Gly Met Thr						
	100		105		110	
Ile Ser Gly Ala Ser Ala Ala Ala Val Phe Tyr Gly Val Met Thr Val						
	115		120		125	
Asp Gln Val Leu Leu Gly Asp Val Cys Ser Ser Asn Arg Lys Glu Met						
	130		135		140	
Thr Pro Ile Ser Ile Asp Asp Ala Pro Arg Phe Gly Tyr Arg Ala Leu						
	145		150		155	160
Met Leu Asp Pro Ala Arg His Phe Leu Pro Ile Glu Asp Val Lys Phe						
		165		170		175
Tyr Ile Asp Gln Met Val Arg Tyr Lys Tyr Asn Val Leu Gln Leu His						
	180		185		190	
Leu Thr Asp Asp Gln Gly Trp Arg Ile Glu Ile Arg Lys His Pro Lys						
	195		200		205	
Leu Thr Ala Gly Gln Ser Phe Tyr Thr Gln Glu Glu Leu Ala Asp Leu						
	210		215		220	
Ile Arg Tyr Ala Ala Glu Arg His Val Glu Ile Val Pro Glu Leu Asp						
	225		230		235	240
Ile Pro Gly His Thr Val Ala Val Leu Ala Ala Tyr Pro Glu Leu Gly						
		245		250		255
Cys Thr His Thr Asp Thr Ile Ala Lys Asn Val Gly Glu Thr Val Asn						
	260		265		270	
Leu Met Leu Cys Ala Asn Asn Glu Lys Val Tyr Glu Val Tyr Asn Asp						
	275		280		285	
Ile Ile Asp Glu Val Ser Ala Leu Phe Pro Ser Arg Tyr Ile His Leu						
	290		295		300	
Gly Gly Asp Glu Ala Val Ile Glu Lys Asn Trp Thr Lys Cys Glu Arg						
	305		310		315	320
Cys Gln Lys Met Met Lys Glu Leu Lys Tyr Glu Lys Ala Ser Gln Leu						
		325		330		335
Met Ile Pro Phe Phe Ser Arg Met Leu Ser Phe Val Glu Ala Asp Gly						

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<210> 5556
<211> 315
<212> PRT
<213> B.fragilis
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Asn 1	Asn	Tyr	Met	Lys 5	Arg	Ile	Leu	Val	Ser 10	Gly	Gly	Ala	Gly	Phe 15	Ile
Gly	Ser	His	Leu 20	Cys	Thr	Arg	Leu	Ile 25	Asn	Glu	Gly	His	Asp 30	Val	Ile
Cys	Leu	Asp 35	Asn	Phe	Phe	Thr	Gly 40	Ser	Lys	Glu	Asn	Ile 45	Ile	His	Leu
Met	Asp 50	Asn	His	His	Phe	Glu 55	Val	Val	Arg	His	Asp 60	Ile	Thr	Phe	Pro
Tyr 65	Ser	Ala	Glu	Val	Asp 70	Glu	Ile	Tyr	Asn	Leu 75	Ala	Cys	Pro	Ala	Ser
Pro	Ile	His	Tyr	Gln 85	Tyr	Asp	Ala	Ile 90	Gln	Thr	Ile	Lys 95	Thr	Ser	Val
Met	Gly	Ala	Ile 100	Asn	Met	Leu	Gly 105	Leu	Ala	Arg	Arg	Leu 110	Asn	Ala	Lys
Ile	Leu	Gln 115	Ala	Ser	Thr	Ser	Glu 120	Val	Tyr	Gly	Asp 125	Pro	Glu	Val	His
Pro	Gln 130	Pro	Glu	Ser	Tyr	Trp 135	Gly	Asn	Val	Asn	Pro 140	Ile	Gly	Ile	Arg
Ser 145	Cys	Tyr	Asp	Glu	Gly 150	Lys	Arg	Cys	Ser	Glu 155	Thr	Leu	Phe	Met	Asp
Tyr	His	Arg	Gln	Asn 165	Asn	Val	Arg	Ile 170	Lys	Ile	Val	Arg 175	Ile	Phe	Asn
Thr	Tyr	Gly 180	Pro	Arg	Met	Leu	Pro 185	Asn	Asp	Gly	Arg	Val 190	Val	Ser	Asn
Phe	Leu	Ile 195	Gln	Ala	Leu	Lys	Asn 200	Asp	Asp	Ile	Thr 205	Ile	Tyr	Gly	Thr
Gly	Glu	Gln 210	Thr	Arg	Ser	Phe 215	Gln	Tyr	Ile	Asp 220	Asp	Leu	Val	Glu	Gly
Met	Ile	Arg	Met	Met	Asn	Thr	Gly	Asp	Asp	Phe	Ile	Gly	Pro	Ile	Asn



## 2345

225		230		235		240
Leu Gly Asn Pro Asn Glu Phe Ser Met	Leu Gln Leu Ala Glu Lys Ile					
	245		250		255	
Ile Gln Lys Thr Gly Ser Lys Ser Lys	Ile Thr Phe Lys Pro Leu Pro					
	260		265		270	
His Asp Asp Pro Gln Gln Arg Lys Pro Asp	Ile Arg Leu Ala Gln Glu					
	275		280		285	
Lys Leu Gly Trp Gln Pro Thr Ile Leu Leu Asp	Glu Gly Leu Asp Arg					
	290		295		300	
Met Ile Asp Tyr Phe Lys Met Lys Tyr Lys Leu						
305		310		315		

&lt;210&gt; 5557

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5557

Phe Cys Asp Ile Ser Arg Lys Ala Cys Phe Leu Cys Gln Thr Pro Lys		
1	5	10
Ala Ile Thr Met Asp Leu Glu Lys Val Leu Ile Arg Glu Ile Asn Asn		15
	20	25
Asp Ser Arg Ile Phe Leu Tyr Lys Glu Gly Asp Cys Trp Ser Ala His		30
	35	40
Asp Asn Ser Ala Arg His Leu Cys Phe Leu Tyr Ser Gln Phe Asn Ala		45
	50	55
Tyr Asp Arg Ile Tyr Gln Ala Tyr Glu Ile Val Leu Lys Cys Val Met		60
	65	70
Leu Ser Asn Ala Met Ile Glu Lys Phe Ile Glu His Thr Leu Val Ser		75
	85	90
Thr Val His Glu Asp Glu Ile Glu Ile Cys Ile Pro Lys Glu Lys Arg		95
	100	105
Ala Glu Phe Glu Ser Trp Arg Ser Thr Ser Gly Val		110
	115	120

&lt;210&gt; 5558

&lt;211&gt; 459

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5558

Leu Ile Arg Met Asp Trp Lys Ile Arg Asn Ile Arg Leu Gln Glu Leu		
1	5	10
Arg Glu Ile Tyr Gln Glu Lys Leu Lys Asn Ile Ala Tyr Arg Val Tyr		15
	20	25
Glu Ser His Phe Gln Asn Gly Ile Val Lys Gln Glu Glu Leu Glu Gly		30
	35	40
Glu Ile Met Ser Tyr Tyr Gln His Thr Gln Pro Ser Leu Gln Glu Phe		45
	50	55
Tyr Ser His Tyr Ala Thr Gln Trp Glu His Phe Tyr Glu Gly His Glu		60
	65	70
Leu Thr Asp Ser Ala Phe Leu Arg Phe Leu Glu Asn Ser Ala Tyr Pro		75
	85	90
Leu Gln Met Lys Tyr Asn Arg Gly Asp Leu Asn Leu Gln Tyr Tyr Ile		95
	100	105
Asp Arg Phe His Thr Leu Lys Lys Arg Ser Lys Glu Trp Lys His Leu		110
	115	120
Arg Asn Leu Phe Phe Asp Lys Trp Tyr His Leu Leu Ala Asn Asn Glu		125
	130	135
		140

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Tyr Asn Tyr Gln Ile Glu Arg Ile Asn Asn Leu Cys Glu Arg Phe Tyr
145          150          155          160
Arg Leu Gln Lys Asn Ile Ala Asp Gln Leu Pro Gln Arg Gly Asn Ala
          165          170          175
Arg Leu Met Trp Leu Leu Arg Thr His Gln Glu Leu Ala Lys Gln Leu
          180          185          190
Phe His Tyr Asp Glu Ile Ala Lys Asn His Pro Ala Ile Arg Glu Leu
          195          200          205
Thr Lys Ile Leu Gly Lys Gln His Tyr Gly Lys Glu Lys Lys Phe Arg
          210          215          220
Met Val Ala Gly Ile His Arg Glu Gln Ile Ile Thr His Ala Thr Lys
225          230          235          240
Ser Asp Ile Thr Gly Val Cys Glu Gly Asn Asp Leu Asn Ser Leu Leu
          245          250          255
Pro Ile Glu Tyr Cys Tyr Leu Ser Asp Pro Ala Leu Gln Pro Leu Phe
          260          265          270
Phe Glu Arg Phe Asn Lys Lys Lys Leu Gln Met Met Asp Tyr Glu Ser
          275          280          285
Lys Asp Gln His Arg Ile Lys Asp Ile Lys Ile Gln Gly Asn Glu Ile
          290          295          300
Val Glu Glu Gln Ser Gly Pro Phe Ile Ile Cys Val Asp Thr Ser Gly
305          310          315          320
Ser Met Ser Gly Glu Arg Glu Glu Phe Val Lys Ser Ala Ile Leu Ala
          325          330          335
Ile Ala Glu Leu Thr Glu Gln Gln Asp Arg Lys Cys Tyr Leu Ile Asn
          340          345          350
Phe Ser Asn Asp Ile Ala Cys Ile Glu Ile Glu Arg Leu Gly Gln Asn
          355          360          365
Ile Gln Glu Leu Ala Asn Phe Leu Cys Gln Ser Phe His Gly Gly Thr
          370          375          380
Asp Leu Thr Pro Ala Leu Leu His Ala Ile His Ile Leu Lys Thr Lys
385          390          395          400
Ser Tyr Arg Asn Ala Asp Leu Val Met Met Ser Asp Phe Glu Met Pro
          405          410          415
Pro Leu Asn Glu Glu Leu Ser Glu Glu Ile Lys Lys Ile Lys Gln Asn
          420          425          430
Lys Thr His Leu Tyr Ala Leu Ser Val His Lys Gln Ser Glu Asn Thr
          435          440          445
Tyr Leu Asn Val Cys Asn Lys Phe Trp Phe Val
          450          455

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&lt;210&gt; 5559

&lt;211&gt; 547

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5559

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Tyr Val Lys Ile Met Ser Met Phe Cys Phe Gln Cys Gln Glu Thr Ala
1          5          10          15
Lys Gly Thr Gly Cys Ile Leu Ser Gly Val Cys Gly Lys Thr Pro Glu
          20          25          30
Val Ala Asn Met Gln Asp Leu Leu Phe Val Val Arg Gly Ile Ala
          35          40          45
Val Tyr Asn Gln Ala Leu Arg Lys Asp Gly Arg Ser Ser Ala Arg Ala
          50          55          60
Asp Lys Phe Ile Phe Asp Ala Leu Phe Thr Thr Ile Thr Asn Ala Asn
65          70          75          80
Phe Asp Lys His Ser Ile Ile Glu Lys Ile Lys Lys Gly Leu Glu Leu
          85          90          95

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Lys Lys Asp Leu Ser Asn Gln Val Thr Ile Glu His Ala Pro Asp Glu  
 100 105 110  
 Cys Thr Trp Tyr Gly Asp Glu Thr Glu Phe Glu Glu Lys Ala Gln Thr  
 115 120 125  
 Val Gly Val Leu Arg Thr Ser Asp Glu Asp Ile Arg Ser Leu Lys Glu  
 130 135 140  
 Leu Val His Tyr Gly Ile Lys Gly Met Ala Ala Tyr Val Glu His Ala  
 145 150 155 160  
 Tyr Asn Leu Gly Tyr Glu Asn Pro Glu Ile Phe Ala Phe Met Gln Tyr  
 165 170 175  
 Ala Leu Ala Glu Leu Thr Arg Glu Asp Ile Thr Val Asp Glu Leu Ile  
 180 185 190  
 Thr Leu Thr Leu Ala Thr Gly Asn His Gly Val Gln Ala Met Ala Gln  
 195 200 205  
 Leu Asp Thr Ala Asn Thr Ser His Tyr Gly Asn Pro Glu Ile Ser Glu  
 210 215 220  
 Val Asn Ile Gly Val Arg Asn Asn Pro Gly Ile Leu Val Ser Gly His  
 225 230 235 240  
 Asp Leu Lys Asp Ile Glu Glu Leu Leu Gln Gln Thr Glu Gly Thr Gly  
 245 250 255  
 Ile Asp Ile Tyr Thr His Ser Glu Met Leu Pro Ala His Tyr Tyr Pro  
 260 265 270  
 Gln Leu Lys Lys Tyr Lys His Leu Val Gly Asn Tyr Gly Asn Ala Trp  
 275 280 285  
 Trp Lys Gln Lys Glu Glu Phe Glu Ser Phe Asn Gly Pro Ile Leu Phe  
 290 295 300  
 Thr Thr Asn Cys Ile Val Pro Pro Arg Pro Asn Ala Thr Tyr Lys Asp  
 305 310 315 320  
 Arg Ile Tyr Thr Thr Gly Ala Thr Gly Leu Glu Gly Ala Thr Tyr Ile  
 325 330 335  
 Pro Glu Arg Lys Asp Gly Lys Gln Lys Asp Phe Ser Val Ile Ile Glu  
 340 345 350  
 His Ala Arg Arg Cys Gln Pro Pro Val Ala Ile Glu Ser Gly Lys Ile  
 355 360 365  
 Val Gly Gly Phe Ala His Ala Gln Val Ile Ala Leu Ala Asp Lys Val  
 370 375 380  
 Val Glu Ala Val Lys Ser Gly Ala Ile Arg Lys Phe Phe Val Met Ala  
 385 390 395 400  
 Gly Cys Asp Gly Arg Met Lys Ser Arg Ser Tyr Tyr Thr Glu Phe Ala  
 405 410 415  
 Glu Lys Leu Pro Ala Asp Thr Val Ile Leu Thr Ala Gly Cys Ala Lys  
 420 425 430  
 Tyr Arg Tyr Asn Lys Leu Pro Leu Gly Asp Ile Asn Gly Ile Pro Arg  
 435 440 445  
 Val Leu Asp Ala Gly Gln Cys Asn Asp Ser Tyr Ser Leu Ala Ile Ile  
 450 455 460  
 Ala Met Lys Leu Gln Glu Val Phe Gly Leu Lys Asp Ile Asn Asp Leu  
 465 470 475 480  
 Pro Ile Val Tyr Asn Ile Ala Trp Tyr Glu Gln Lys Ala Val Ile Val  
 485 490 495  
 Leu Leu Ala Leu Leu Ala Leu Gly Val Lys Lys Ile His Leu Gly Pro  
 500 505 510  
 Thr Leu Pro Ala Phe Leu Ser Pro Asn Val Lys Gln Val Leu Ile Asp  
 515 520 525  
 Asn Phe Gly Ile Gly Gly Ile Ser Thr Ala Asp Glu Asp Ile Ala Lys  
 530 535 540  
 Phe Leu Ala  
 545

<210> 5560  
 <211> 169  
 <212> PRT  
 <213> B.fragilis

<400> 5560

Thr	Lys	Lys	Ile	Met	Ser	Leu	Leu	Leu	Pro	Asp	Ser	Gly	Leu	Ile	Phe
1				5					10					15	
Trp	Met	Leu	Leu	Ser	Phe	Gly	Ile	Val	Phe	Ala	Val	Leu	Ala	Lys	Tyr
		20						25					30		
Gly	Phe	Pro	Val	Ile	Ile	Lys	Met	Val	Glu	Gly	Arg	Lys	Thr	Tyr	Ile
		35					40					45			
Asp	Glu	Ser	Leu	Glu	Val	Ala	Arg	Glu	Ala	Asn	Ala	Gln	Leu	Ser	Arg
	50					55					60				
Leu	Lys	Glu	Glu	Gly	Glu	Ala	Ile	Val	Ala	Ala	Ala	Asn	Lys	Glu	Gln
65					70				75					80	
Gly	Arg	Ile	Met	Lys	Glu	Ala	Met	Gln	Glu	Arg	Glu	Lys	Ile	Ile	Tyr
			85					90					95		
Glu	Ala	Arg	Lys	Gln	Ala	Glu	Ile	Ala	Ala	Gln	Lys	Glu	Leu	Asp	Glu
			100					105					110		
Val	Lys	Arg	Gln	Ile	Gln	Ile	Glu	Lys	Asp	Glu	Ala	Ile	Arg	Asp	Ile
		115					120					125			
Arg	Arg	Gln	Val	Ala	Leu	Leu	Ser	Val	Asp	Ile	Ala	Glu	Lys	Val	Ile
	130					135					140				
Arg	Lys	Asn	Leu	Asp	Asp	Lys	Gln	Glu	Gln	Met	Gly	Met	Ile	Asp	Arg
145				150						155					160
Met	Leu	Asp	Glu	Val	Leu	Thr	Lys	Asn							
				165											

<210> 5561  
 <211> 189  
 <212> PRT  
 <213> B.fragilis

<400> 5561

Gln	Lys	Lys	Met	Glu	Val	Gly	Ile	Ile	Ser	Met	Arg	Tyr	Ala	Lys	Ala
1			5						10					15	
Leu	Met	Ala	Tyr	Ala	Glu	Glu	Arg	Gly	Ala	Glu	Glu	Arg	Leu	Tyr	His
		20						25					30		
Glu	Leu	Val	Thr	Leu	Ala	His	Ser	Phe	Arg	Thr	Val	Lys	Gly	Phe	Cys
		35					40					45			
Ala	Val	Leu	Asp	Asn	Pro	Ile	Val	Ser	Val	Asn	Glu	Lys	Phe	Asn	Leu
	50					55					60				
Ile	Cys	Thr	Ala	Ala	Asp	Gly	Asp	His	Lys	Pro	Ser	Glu	Glu	Phe	Ile
65					70				75					80	
Arg	Phe	Ile	Arg	Leu	Val	Leu	Lys	Glu	Arg	Arg	Glu	Thr	Tyr	Leu	Gln
			85					90					95		
Phe	Met	Ser	Leu	Met	Tyr	Leu	Asp	Leu	Tyr	Arg	Lys	Lys	Lys	His	Ile
		100						105					110		
Gly	Val	Gly	Lys	Leu	Ile	Thr	Ala	Val	Pro	Val	Asp	Lys	Ala	Thr	Glu
		115					120					125			
Glu	Arg	Ile	Arg	Gln	Thr	Ala	Ala	His	Ile	Leu	His	Ala	Tyr	Met	Glu
	130					135					140				
Leu	Glu	Thr	Val	Val	Asp	Pro	Ser	Ile	Glu	Gly	Gly	Phe	Val	Phe	Asp
145					150					155					160
Ile	Asn	Asp	Tyr	Arg	Leu	Asp	Ala	Ser	Ile	Ala	Thr	Gln	Leu	Lys	Lys
			165					170					175		
Val	Lys	Gln	Gln	Phe	Ile	Asp	Lys	Asn	Arg	Arg	Ile	Val			
			180					185							

<210> 5562  
 <211> 478  
 <212> PRT  
 <213> B.fragilis

<400> 5562

Thr	Met	Tyr	Leu	Ile	Ser	Ile	Ser	Ser	Leu	Ala	Gln	Arg	Ala	Lys	Ser	1	5	10	15
Val	Gly	Ile	His	Lys	Cys	Asn	Gly	Ala	Ser	Asp	Gly	His	Ile	Tyr	Arg	20	25	30	
Met	Phe	Leu	Tyr	Glu	Ser	Ala	Leu	Leu	Ile	Leu	Leu	Ser	Leu	Leu	Phe	35	40	45	
Val	Thr	Val	Leu	Leu	Phe	Thr	Phe	Lys	Leu	Glu	Ile	Glu	Asp	Leu	Ser	50	55	60	
Gly	Ala	Ser	Leu	Lys	Ala	Leu	Phe	Thr	Trp	Gln	Thr	Leu	Trp	Val	Pro	65	70	75	80
Ile	Leu	Val	Ser	Leu	Val	Leu	Phe	Leu	Val	Ile	Gly	Leu	Phe	Pro	Gly	85	90	95	
Lys	Leu	Phe	Ala	Ala	Ile	Pro	Val	Thr	Gln	Val	Phe	His	Arg	Phe	Thr	100	105	110	
Ala	His	Arg	Phe	Val	Trp	Lys	Arg	Ser	Leu	Leu	Phe	Ile	Gln	Phe	Ala	115	120	125	
Gly	Ile	Ala	Phe	Ile	Leu	Gly	Leu	Leu	Met	Val	Ile	Leu	Leu	Gln	Tyr	130	135	140	
His	Gln	Val	Met	Thr	Arg	Asp	Met	Gly	Tyr	Lys	Val	Asp	Asn	Leu	Ala	145	150	155	160
Val	Gly	Trp	Ser	Pro	Tyr	Arg	Glu	Ile	Asp	Lys	Met	Asp	Gly	Ile	Leu	165	170	175	
Arg	Gly	Leu	Pro	Ile	Val	Glu	Glu	Phe	Cys	Asn	Ala	Ser	Thr	Ile	Ile	180	185	190	
Tyr	Gly	Gly	Tyr	Met	Gly	Gln	Pro	Tyr	Thr	Asp	Ala	His	Gly	Lys	Glu	195	200	205	
Phe	Met	Gly	Arg	Ile	Glu	Phe	Val	Asp	Glu	His	Tyr	Val	Pro	Val	Met	210	215	220	
Gly	Leu	Gln	Ile	Ile	Lys	Gly	Arg	Asn	Ile	Gln	Gln	Asp	Lys	Glu	Ile	225	230	235	240
Leu	Ile	Asn	Glu	Glu	Met	Val	Arg	Gln	Ile	Gly	Trp	Thr	Asp	Ser	Pro	245	250	255	
Ile	Gly	Lys	Asn	Leu	Glu	Asp	Gly	Lys	Asn	Asn	Phe	Gly	Thr	Ile	Val	260	265	270	
Gly	Val	Val	Lys	Asp	Tyr	Val	Val	Gln	Ser	Ala	Tyr	Met	Pro	Gln	Ala	275	280	285	
Pro	Val	Ala	Leu	Met	Ser	Asn	Leu	Glu	Trp	Met	Asn	Val	Leu	Asn	Lys	290	295	300	
Arg	Asn	Ile	Ile	Leu	Lys	Glu	Pro	Phe	Gly	Glu	Asn	Leu	Ala	Lys	Ile	305	310	315	320
Asn	Thr	Leu	Met	Lys	Glu	Ala	Phe	Pro	Thr	Val	Asp	Ile	Val	Phe	Arg	325	330	335	
Ser	Ala	Arg	Gln	Glu	Ile	Asp	Lys	Gln	Tyr	Gln	Glu	Val	Arg	Arg	Phe	340	345	350	
Arg	Asn	Val	Val	Ile	Ile	Ala	Ser	Ile	Ala	Ile	Leu	Leu	Ile	Ala	Leu	355	360	365	
Met	Gly	Leu	Phe	Gly	Phe	Val	Asn	Asp	Glu	Ile	Gln	Arg	Arg	Ser	Lys	370	375	380	
Glu	Ile	Ala	Ile	Arg	Lys	Val	Asn	Gly	Ala	Glu	Val	Pro	Asp	Ile	Leu	385	390	395	400
Arg	Leu	Val	Ser	Gly	Asn	Ile	Phe	Trp	Thr	Ala	Leu	Ser	Ala	Val	Leu	405	410	415	

Val Gly Ile Val Phe Ala Tyr Ile Val Ser Asn Lys Trp Leu Glu Gln  
 420 425 430  
 Phe Ser Asp Arg Val Ser Val Asn Gly Gly His Phe Leu Val Val Ile  
 435 440 445  
 Ile Ile Ile Leu Leu Leu Ile Ile Gly Ser Val Ile Gly Arg Ser Trp  
 450 455 460  
 Asn Val Ala Asn Glu Asn Pro Val Asn Ser Ile Lys Asn Glu  
 465 470 475

<210> 5563  
 <211> 95  
 <212> PRT  
 <213> B.fragilis

<400> 5563  
 Ser Phe Ile Val Ile Leu Leu Ile Phe Tyr Phe Cys Ile Phe Met Asn  
 1 5 10 15  
 Met Tyr Val Gly Asn Leu Ser Tyr Asn Val Lys Glu Ser Asp Leu Arg  
 20 25 30  
 Gln Val Met Glu Glu Tyr Gly Val Val Glu Ser Val Lys Leu Ile Thr  
 35 40 45  
 Asp Arg Glu Thr Arg Arg Ser Lys Gly Phe Ala Phe Val Glu Met Pro  
 50 55 60  
 Glu Ser Ser Glu Ala Ser Asn Ala Ile Lys Glu Leu Asn Gly Ala Glu  
 65 70 75 80  
 Tyr Ala Gly Arg Pro Met Val Val Lys Glu Ala Leu Pro Arg Asn  
 85 90 95

<210> 5564  
 <211> 306  
 <212> PRT  
 <213> B.fragilis

<400> 5564  
 Pro Phe Asn Val Asp Pro Leu Ile Tyr Ser Leu Leu Leu Val Trp Tyr  
 1 5 10 15  
 Glu Leu Lys Val Ile Pro Leu Arg Pro Ile Phe Asn Leu Lys Arg Leu  
 20 25 30  
 Asp Met Ala Gly Tyr Ile Ser Asp Thr Arg Lys Val Thr Thr His  
 35 40 45  
 Arg Leu Ile Glu Met Lys Gln Arg Gly Glu Lys Ile Ser Met Leu Thr  
 50 55 60  
 Ser Tyr Asp Tyr Thr Met Ala Gln Ile Val Asp Gly Ala Gly Ile Asp  
 65 70 75 80  
 Val Ile Leu Val Gly Asp Ser Ala Ser Asn Val Met Ala Gly Asn Val  
 85 90 95  
 Thr Thr Leu Pro Ile Thr Leu Asp Gln Met Ile Tyr His Gly Lys Ser  
 100 105 110  
 Val Val Arg Gly Val Lys Arg Ala Met Val Val Val Asp Met Pro Phe  
 115 120 125  
 Gly Ser Tyr Gln Gly Asn Glu Met Glu Gly Leu Ala Ser Ala Ile Arg  
 130 135 140  
 Ile Met Lys Glu Ser His Ala Asp Ala Leu Lys Leu Glu Gly Gly Glu  
 145 150 155 160  
 Glu Ile Ile Asp Thr Val Lys Arg Ile Leu Ser Ala Gly Ile Pro Val  
 165 170 175  
 Met Gly His Leu Gly Leu Met Pro Gln Ser Ile Asn Lys Tyr Gly Thr  
 180 185 190  
 Tyr Thr Val Arg Ala Lys Asp Asp Ala Glu Ala Glu Lys Leu Ile Arg

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      195              200              205
Asp Ala His Leu Leu Glu Glu Ala Gly Cys Phe Gly Leu Val Leu Glu
  210              215              220
Lys Ile Pro Ala Ala Leu Ala Ser Arg Val Ala Ser Glu Leu Thr Ile
  225              230              235              240
Pro Val Ile Gly Ile Gly Ala Gly Gly Asp Val Asp Gly Gln Val Leu
      245              250              255
Val Ile Gln Asp Met Leu Gly Met Asn Asn Gly Phe Arg Pro Arg Phe
      260              265              270
Leu Arg Arg Tyr Ala Asp Leu Tyr Thr Val Met Thr Asp Ala Ile Ser
      275              280              285
His Tyr Val Ser Asp Val Lys Asn Cys Asp Phe Pro Asn Glu Lys Glu
      290              295              300
Gln Tyr
  305

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&lt;210&gt; 5565

&lt;211&gt; 443

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5565

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Asp Glu Lys Val Trp Phe Met Lys Ile His Leu Lys Leu Leu Thr Glu
  1              5              10              15
Arg Tyr Trp Phe Arg Leu Gly Leu Ser Leu Cys Phe Ala Ile Thr Ala
      20              25              30
Ala Leu Ser Tyr Ala Asp Arg Asp Phe Ile Trp Met Gly Leu Ser Leu
      35              40              45
Cys Leu Leu Leu Phe Ser Ile Trp Trp Gln Leu Ser Leu Tyr Arg Ile
      50              55              60
His Thr Lys Arg Val Leu Phe Met Ile Asp Ala Leu Glu Asn Asn Asp
      65              70              75              80
Ser Ala Ile His Phe Pro Glu Glu Gln Ile Met Pro Glu Thr Arg Glu
      85              90              95
Val Asn Arg Ala Leu Asn Arg Val Gly Arg Ile Leu Tyr Asn Val Lys
      100              105              110
Ser Glu Thr Val Gln Gln Glu Lys Tyr Tyr Glu Leu Ile Met Asp Cys
      115              120              125
Ile Asn Thr Gly Val Leu Val Leu Asn Glu Asn Gly Ala Val Tyr Gln
      130              135              140
Lys Asn Asn Glu Ala Leu Arg Leu Leu Gly Leu Asn Val Phe Thr His
      145              150              155              160
Ile Arg Gln Leu Asn Lys Val Asp Ile Gln Leu Met Lys Lys Ile Glu
      165              170              175
Phe Cys Arg Pro Gly Asp Lys Ile Gln Thr Ile Phe Asn Asn Glu Arg
      180              185              190
Gly Thr Ile Asn Leu Ser Ile Arg Val Ser Gly Ile Thr Val Arg Glu
      195              200              205
Glu Gln Leu Arg Ile Leu Ala Phe Asn Asp Ile Asn Ser Glu Leu Asp
      210              215              220
Glu Lys Glu Ile Asp Ser Trp Ile Arg Leu Thr Arg Val Leu Thr His
      225              230              235              240
Glu Ile Met Asn Ser Val Thr Pro Ile Thr Ser Leu Ser Glu Thr Leu
      245              250              255
Leu Ser Leu Ala Asp Thr Arg Asp Glu Glu Ile Arg Arg Gly Leu Gln
      260              265              270
Thr Ile Ser Thr Thr Gly Lys Gly Leu Leu Ser Phe Val Glu Ser Tyr
      275              280              285
Arg Arg Phe Thr Arg Ile Pro Thr Pro Glu Pro Ser Leu Phe Tyr Val

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290	295	300
Lys Ala Phe Ile Asp Arg Met Val Glu Leu Ala Arg His Gln Asn Lys		
305	310	315
Cys Asp Asn Ile Thr Phe His Ile Asp Ile Ala Pro Ala Asp Leu Ile		320
	325	330
Val Tyr Ala Asp Glu Asn Leu Ile Ser Gln Val Val Ile Asn Leu Leu		335
	340	345
Lys Asn Ala Ile Gln Ala Ile Asp Ala Gln Ala Asp Gly Lys Ile Glu		350
	355	360
Ile Lys Gly Arg Cys Asn Ala Ala Glu Glu Ile Leu Ile Glu Ile Lys		365
	370	375
Asn Asn Gly Pro Ala Ile Pro Ser Asp Ile Ala Asp His Ile Phe Ile		380
385	390	395
Pro Phe Phe Thr Thr Lys Glu Gly Gly Ser Gly Ile Gly Leu Ser Ile		400
	405	410
Ser Arg Gln Ile Met Arg Leu Ser Gly Gly Ser Ile Thr Leu Leu Gln		415
	420	425
Gly Lys Glu Thr Lys Phe Ile Leu Lys Phe Lys		430
	435	440

&lt;210&gt; 5566

&lt;211&gt; 240

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5566

Asn Leu Met Val Met Ile Met Lys Trp Leu Asn Phe Asn Ser Ile Ile		
1	5	10
Gly Met Ala Val Leu Ser Leu Leu Phe Tyr Thr Glu Asn Val Ala Ala		15
	20	25
Gln Thr Asp Lys Asn Asp Thr Lys Gln Lys Ile Asp Thr Ile Gln Thr		30
	35	40
Thr Gln Pro Glu Tyr Ser Lys Tyr Asp Lys Arg Ile His Arg Phe Arg		45
	50	55
Lys Gly Trp Asn Ser Leu Ile Pro Thr His Asn Lys Ile Gln Tyr Ala		60
65	70	75
Gly Asn Met Gly Met Phe Ser Phe Gly Thr Gly Trp Asp Tyr Gly Lys		80
	85	90
Arg Asp Gln Trp Glu Thr Asp Leu Phe Gly Phe Ile Pro Lys His		95
	100	105
Asp Ser His Arg Ala Lys Met Thr Met Thr Leu Lys Gln Asn Tyr Met		110
	115	120
Pro Trp Ser Leu Glu Leu Gly Lys Gly Phe Ser Thr Glu Pro Leu Ala		125
	130	135
Cys Gly Ile Tyr Phe Asn Thr Val Phe Gly His Glu Phe Trp Val His		140
145	150	155
Glu Pro Ser Arg Tyr Pro Glu Gly Tyr Tyr Gly Phe Ser Ser Lys Ile		160
	165	170
Arg Thr His Ile Phe Leu Gly Gln Arg Leu Thr Tyr Asp Ile Asp Arg		175
	180	185
Glu Arg Arg Phe Phe Ala Lys Ser Val Thr Leu Phe Tyr Glu Leu Ser		190
	195	200
Thr Cys Asp Leu Leu Leu Ile Ser Arg Val Thr Asn Ser Tyr Leu Arg		205
	210	215
Ala Arg Asp Tyr Leu Ser Leu Ser Phe Gly Leu Lys Phe Gln Trp Leu		220
225	230	235
		240

&lt;210&gt; 5567

&lt;211&gt; 84



&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5567

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Leu Asp Ile Phe Asn Ser Gln Gly Glu Gly Phe Ser Gly Pro Gly Gly
1      5      10      15
Gly Phe Ile Asp Asn Glu Phe Ala His Ser Gln Phe Val Leu Asp Asn
      20      25      30
Asp Tyr Phe Leu Phe Thr Ile Ser Asn Gly Thr Arg Ile Glu Thr Pro
      35      40      45
Phe Phe Ile Lys Leu Phe Arg Leu Gly Tyr Lys Arg Ser Leu Lys Glu
      50      55      60
Ser Gln Leu Arg Cys Ser Ile Trp Val His Pro Ala Ser Ala Ser Ala
65      70      75      80
Arg Pro Arg Gly

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&lt;210&gt; 5568

&lt;211&gt; 422

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5568

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Leu Ser Phe Ser Leu Phe Tyr Arg Asn His Leu Val Ala Arg Ser Gly
1      5      10      15
Phe Ile Gly Arg Lys Val Val Phe Leu Arg His Tyr Ile Leu Lys Tyr
      20      25      30
Ser Ile Met Lys Lys Ile Leu Leu Leu Gly Ser Gly Glu Leu Gly Lys
      35      40      45
Glu Phe Val Ile Ser Ala Gln Arg Lys Gly Gln His Ile Ile Ala Cys
      50      55      60
Asp Ser Tyr Ala Gly Ala Pro Ala Met Gln Val Ala Asp Glu Cys Glu
65      70      75      80
Val Phe Asp Met Leu Asn Gly Glu Glu Leu Glu Arg Ile Val Lys Lys
      85      90      95
His Arg Pro Asp Ile Ile Val Pro Glu Ile Glu Ala Ile Arg Thr Glu
      100      105      110
Arg Leu Tyr Asp Phe Glu Lys Glu Gly Ile Gln Val Val Pro Ser Ala
      115      120      125
Arg Ala Val Asn Tyr Thr Met Asn Arg Lys Ala Ile Arg Asp Leu Ala
      130      135      140
Ala Lys Glu Leu Gly Leu Lys Thr Ala Lys Tyr Tyr Tyr Ala Lys Ser
145      150      155      160
Leu Glu Glu Leu Lys Glu Ala Ala Glu Lys Ile Gly Phe Pro Cys Val
      165      170      175
Val Lys Pro Leu Met Ser Ser Ser Gly Lys Gly Gln Ser Leu Val Lys
      180      185      190
Ser Ala Ala Glu Leu Glu His Ala Trp Glu Tyr Gly Cys Asn Gly Ser
      195      200      205
Arg Gly Asp Ile Arg Glu Leu Ile Ile Glu Glu Phe Ile Lys Phe Asp
      210      215      220
Ser Glu Ile Thr Leu Leu Thr Val Thr Gln Lys Asn Gly Pro Thr Leu
225      230      235      240
Phe Cys Pro Pro Ile Gly His Val Gln Lys Gly Gly Asp Tyr Arg Glu
      245      250      255
Ser Phe Gln Pro Ala His Ile Asp Pro Ala His Leu Lys Glu Ala Glu
      260      265      270
Asp Met Ala Glu Lys Val Thr Arg Ala Leu Thr Gly Ala Gly Leu Trp
      275      280      285

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Gly Val Glu Phe Phe Leu Ser His Glu Asn Gly Val Tyr Phe Ser Glu  
 290 295 300  
 Leu Ser Pro Arg Pro His Asp Thr Gly Met Val Thr Leu Ala Gly Thr  
 305 310 315 320  
 Gln Asn Leu Asn Glu Phe Glu Leu His Leu Arg Ala Val Leu Gly Leu  
 325 330 335  
 Pro Ile Pro Gly Ile Lys Gln Glu Arg Ile Gly Ala Ser Ala Val Ile  
 340 345 350  
 Leu Ser Pro Ile Ala Ser Gln Glu Arg Pro Gln Tyr Arg Gly Met Glu  
 355 360 365  
 Glu Val Thr Gly Glu Glu Asp Thr Tyr Leu Arg Ile Phe Gly Lys Pro  
 370 375 380  
 Tyr Thr Arg Val Asn Arg Arg Met Gly Val Val Leu Cys Tyr Ala Pro  
 385 390 395 400  
 Asn Gly Ser Asp Leu Asp Ala Leu Arg Asp Lys Ala Lys Arg Ile Ala  
 405 410 415  
 Asp Lys Val Glu Val Tyr  
 420

<210> 5569

<211> 214

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (33)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 5569

Asn Lys Arg Phe Met Arg Ser Leu Ile Gly Lys Gln Ala Pro Lys Phe  
 1 5 10 15  
 Asp Ala Thr Ala Val Ile Asn Gly His Glu Ile Val Gln Asn Phe Arg  
 20 25 30  
 Xaa Asp Gln Tyr Lys Gly Lys Lys Tyr Val Val Phe Phe Phe Tyr Pro  
 35 40 45  
 Met Asp Phe Thr Phe Val Cys Pro Thr Glu Leu His Ala Phe Gln Glu  
 50 55 60  
 Lys Leu Glu Glu Phe Glu Lys Arg Asp Val Ala Val Val Gly Cys Ser  
 65 70 75 80  
 Val Asp Ser Glu Tyr Ser His Phe Ser Trp Leu Gln Met Pro Lys Asn  
 85 90 95  
 Glu Gly Gly Ile Gln Gly Val Lys Tyr Pro Ile Val Ser Asp Phe Ser  
 100 105 110  
 Lys Ser Ile Ser Glu Ser Tyr Gly Val Leu Ala Gly Ser Tyr Ala Pro  
 115 120 125  
 Asp Glu Asn Gly Asn Trp Val Cys Glu Gly Thr Pro Val Ala Phe Arg  
 130 135 140  
 Gly Leu Phe Leu Ile Asp Lys Glu Gly Val Val Arg His Cys Val Ile  
 145 150 155 160  
 Asn Asp Leu Pro Leu Gly Arg Asn Val Asp Glu Val Leu Arg Met Val  
 165 170 175  
 Asp Ala Leu Gln His Phe Glu Glu Tyr Gly Glu Val Cys Pro Ala Asn  
 180 185 190  
 Trp Ser Lys Gly Lys Asp Ala Met Lys Ala Thr Glu Asp Gly Val Ala  
 195 200 205  
 Asn Tyr Leu Ser Lys His  
 210



Gln Gln Glu Leu Asn Glu Asn Met Gln Asn Lys  
 290 295

<210> 5572  
 <211> 165  
 <212> PRT  
 <213> B.fragilis

<400> 5572  
 Pro Leu Thr Phe Met Glu Ile Tyr Asn His Phe Glu Tyr Gly Lys Thr  
 1 5 10 15  
 Leu Ala Ile Arg Leu Lys Pro Ile Ala His Thr Pro Glu Lys Pro Arg  
 20 25 30  
 Phe Phe Thr Ala Phe Gly Leu Glu Asp Leu Tyr Asn Phe Asn Asp Lys  
 35 40 45  
 Leu Ser Ser Val Ser Gly Met Ile Leu Ile Ala Val Asp Gly Cys Glu  
 50 55 60  
 Ser Glu Ser Lys Arg Asn Glu Ser Asp Ala Leu Asn Asn Asn Asp Ile  
 65 70 75 80  
 Phe Ser Phe Ile Val Val Gln Asn Thr Val Ser Asp Arg Pro Glu Thr  
 85 90 95  
 Val Asn Gln Ala Ala Lys Glu Cys Lys Ala Ile Ala Lys Gln Ile Arg  
 100 105 110  
 Asn His Ile Leu Gln Asp Pro Asp Ile Ser Glu Phe Ile Asp Asp Thr  
 115 120 125  
 Ile Gln Phe Asn Gly Ile Gly Pro Ile Gly Asp Asn Phe Tyr Gly Val  
 130 135 140  
 Val Leu Thr Phe Ser Leu Val Gln Pro Glu Thr Tyr Phe Ile Asp Gln  
 145 150 155 160  
 Thr Tyr Trp Glu Asp  
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<210> 5573  
 <211> 67  
 <212> PRT  
 <213> B.fragilis

<400> 5573  
 Ile Tyr Pro Pro Thr Ser Asn Val Tyr Leu Lys Met His Met Ser Asp  
 1 5 10 15  
 Lys Tyr Glu Met Leu Ser Leu Ile His Asn Thr Ile Val Phe Lys Glu  
 20 25 30  
 Glu Ser Tyr Met Thr Thr Thr His His Gln Val Asn Ile Leu Ser Cys  
 35 40 45  
 Lys Val Phe Leu Met Lys Asn Gly Arg Arg Asn Met Ser Thr Leu Phe  
 50 55 60  
 Ser Tyr Leu  
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<210> 5574  
 <211> 237  
 <212> PRT  
 <213> B.fragilis

<400> 5574  
 Met Ser Gln Pro Phe Phe Gln Phe Lys Gln Phe Thr Val Trp His Asp  
 1 5 10 15  
 Lys Cys Ala Met Lys Val Gly Thr Asp Gly Val Leu Leu Gly Ala Trp  
 20 25 30

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Thr Pro Val Glu Ser Ser Ala Arg Ile Leu Asp Ile Gly Thr Gly Thr
  35                      40                      45
Gly Leu Val Ala Leu Met Leu Ala Gln Arg Cys Ser Ala Ser Val Ile
  50                      55                      60
Ala Leu Glu Ile Asp Gly Thr Ala Ala Gln Gln Ala Ala Glu Asn Ile
  65                      70                      75                      80
Thr Arg Ser Pro Trp Gly Ser Arg Ile Glu Val Val Cys Gln Asp Phe
                      85                      90                      95
Arg Leu Tyr Ser Asn Lys Asn Asn Ser Leu Lys Tyr Asp Thr Ile Val
                      100                      105                      110
Ser Asn Pro Pro Tyr Phe Thr Asp Ser Leu Lys Cys Pro Asp Ser Gln
                      115                      120                      125
Arg Asn Thr Ala Arg His Asn Asp Asn Leu Ser Tyr Glu Glu Leu Leu
                      130                      135                      140
Lys Gly Val Ser Asn Leu Leu Ser Pro Asn Gly Thr Phe Thr Val Val
  145                      150                      155                      160
Ile Pro Met Asp Ala Ser Asp Ser Phe Lys Asp Ile Ala Ser Ser Gln
                      165                      170                      175
Gly Leu Tyr Pro Ser Arg Gln Leu Leu Val Ile Thr Lys Pro Gly Ala
                      180                      185                      190
Pro Pro Lys Arg Thr Leu Ile Ser Phe Thr Phe Ile Lys Gln Asp Cys
                      195                      200                      205
Lys Glu Glu Lys Leu Leu Thr Glu Val Ser Arg His Arg Tyr Ser Asp
                      210                      215                      220
Glu Tyr Ile Lys Leu Thr Arg Glu Phe Tyr Leu Lys Met
  225                      230                      235

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&lt;210&gt; 5575

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5575

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Glu Pro Glu Pro Asn Leu Ser Arg Lys Lys Ile Ile Ala Gly Tyr His
  1                      5                      10                      15
Asn Arg Gln Val Asn Ser Phe Ser Asn Leu Asn Ile Lys Thr Met Ser
                      20                      25                      30
Val Asn Lys Cys Ile Phe Ile Gly Asn Met Gly Arg Asp Ala Glu Val
                      35                      40                      45
Arg Thr Thr Glu Thr Gly Ile Lys Val Ala Gln Phe Ser Ile Ala Cys
                      50                      55                      60
Thr Glu Arg Ala Tyr Thr Asn Lys Ala Gly Gln Thr Ile Pro Glu Arg
  65                      70                      75                      80
Thr Glu Trp Ile Pro Val Val Ala Trp Arg Arg Leu Ala Glu Thr Ile
                      85                      90                      95
Glu Lys Tyr Thr His Lys Gly Ser Lys Leu Tyr Ile Glu Gly Arg Phe
                      100                      105                      110
Thr Thr Arg Lys Tyr Glu Thr Asn Asp Gly Gln Lys Arg Thr Val Ser
                      115                      120                      125
Glu Ile Val Ala Glu Ser Ile Glu Met Leu Asp Pro Lys Arg Asp Ala
                      130                      135                      140
Pro Ser Leu Pro Pro Glu Pro Glu Gln Lys Leu Ser Tyr Asn Pro
  145                      150                      155

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&lt;210&gt; 5576

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5576

Ser Arg Lys Phe Met Tyr Gln Phe Ile Glu Thr Ile Arg Ile Glu Arg  
 1 5 10 15  
 Gly Val Val Tyr Asn Leu Asp Tyr His Thr Glu Arg Met Asn Gln Thr  
 20 25 30  
 Arg Ala Val Phe Trp Pro Asp Glu Pro Pro Leu Asn Leu Ser Glu Ser  
 35 40 45  
 Leu Gln Pro Ile Met Asn Val Glu Met Ile Lys Cys Arg Val Val Tyr  
 50 55 60  
 Ser Arg Trp Ile Glu Glu Ile Leu Tyr Thr Pro Tyr Gln Ile Arg Pro  
 65 70 75 80  
 Val His Ser Leu Gln Ile Val His Ser Asp Asn Ile Asp Tyr Thr Tyr  
 85 90 95  
 Lys Ser Thr Asp Arg Ser Ala Ile Asn Glu Leu Tyr Met His Lys Arg  
 100 105 110  
 Glu Gln Asp Glu Ile Leu Ile Thr Arg Asn Gly Leu Leu Thr Asp Thr  
 115 120 125  
 Ser Ile Ala Asn Ile Ala Leu Phe Asn Gly Lys Glu Trp His Thr Pro  
 130 135 140  
 Lys His Pro Leu Leu Lys Gly Val Gln Arg Ala Ala Leu Ile Asp Lys  
 145 150 155 160  
 His Leu Ile Arg Glu Lys Glu Ile Thr Val Asp Gln Leu Phe Asn Tyr  
 165 170 175  
 Ser Gln Ile Cys Leu Phe Asn Ala Met Ile Asp Phe Gly Lys Ile Lys  
 180 185 190  
 Ile Asp Val Asn Arg Glu Leu Ile Arg Ile  
 195 200

&lt;210&gt; 5577

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5577

Thr Met Lys Phe Ser Glu Leu Gln Leu Asn Asp Asn Val Leu Glu Ala  
 1 5 10 15  
 Leu Asp Ala Met Arg Phe Glu Glu Cys Thr Pro Ile Gln Glu Gln Ala  
 20 25 30  
 Ile Pro Val Ile Leu Glu Gly Arg Asp Leu Ile Ala Val Ala Gln Thr  
 35 40 45  
 Gly Thr Gly Lys Thr Ala Ala Phe Leu Leu Pro Ile Leu Asn Lys Leu  
 50 55 60  
 Ser Glu Gly Gly His Pro Glu Asp Ala Ile Asn Cys Val Ile Met Ser  
 65 70 75 80  
 Pro Thr Arg Glu Leu Ala Gln Gln Ile Asp Gln Gln Met Glu Gly Phe  
 85 90 95  
 Ser Tyr Phe Met Pro Val Ser Ser Val Ala Val Tyr Gly Gly Asn Asp  
 100 105 110  
 Gly Ile Leu Phe Glu Gln Gln Lys Lys Gly Leu Met Leu Gly Ala Asp  
 115 120 125  
 Val Val Ile Ala Thr Pro Gly Arg Leu Ile Ala His Leu Ser Leu Gly  
 130 135 140  
 Tyr Val Asp Leu Ser Arg Val Ser Tyr Phe Ile Leu Asp Glu Ala Asp  
 145 150 155 160  
 Arg Met Leu Asp Met Gly Phe Tyr Glu Asp Ile Met Gln Ile Val Lys  
 165 170 175  
 Tyr Leu Pro Lys Glu Arg Gln Thr Ile Met Phe Ser Ala Thr Met Pro  
 180 185 190  
 Ala Lys Ile Gln Gln Leu Ala Asn Thr Ile Leu Asn Asn Pro Ala Glu

195	200	205
Val Lys Leu Ala Val Ser Lys Pro Ala Glu Lys Ile Val Gln Ala Ala		
210	215	220
Tyr Val Cys Tyr Glu Asn Gln Lys Leu Gly Ile Val Arg Ser Leu Phe		
225	230	235
Ala Glu Glu Val Pro Glu Arg Val Ile Ile Phe Ala Ser Ser Lys Ile		
245	250	255
Lys Val Lys Glu Val Ala Lys Ala Leu Lys Met Met Lys Leu Asn Val		
260	265	270
Gly Glu Met His Ser Asp Leu Glu Gln Val Gln Arg Glu Phe Ile Met		
275	280	285
His Glu Phe Lys Ser Gly Arg Ile Asn Ile Leu Val Ala Thr Asp Ile		
290	295	300
Val Ser Arg Gly Ile Asp Ile Asp Asp Ile Arg Leu Val Ile Asn Phe		
305	310	315
Asp Val Pro His Asp Ser Glu Asp Tyr Val His Arg Ile Gly Arg Thr		
325	330	335
Ala Arg Ala Asn Asn Asp Gly Val Ala Leu Thr Phe Val Asn Glu Lys		
340	345	350
Glu Gln Thr Asn Phe Lys Asn Ile Glu Asn Phe Leu Glu Lys Glu Ile		
355	360	365
Tyr Lys Ile Pro Val Pro Ala Glu Leu Gly Glu Ala Pro Gln Tyr Asn		
370	375	380
Pro Arg Ser Tyr Thr Asn Ala Gly Arg Gly Gly Arg Asn Phe Arg Asn		
385	390	395
Gly Asn Arg Lys Asn Asn Asn Gly Gly Arg Ser Thr Ala Pro Arg Ser		
405	410	415
Gly Arg Arg		

&lt;210&gt; 5578

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5578

Met Ile Thr Thr Lys Ile Glu Val Pro Pro His Leu Cys Glu Tyr Ile	
1	5
Arg Gly Lys Tyr Cys Asn Leu Thr Ser Asp Pro Val Arg Phe Pro Asp	
20	25
Asn Leu Asn Ile Tyr His Val Ile Phe Asp Leu Leu Gln Lys Arg Pro	
35	40
Ser Glu Ala Pro Val Asp Arg Gly Asn Leu Glu Ile Cys Leu Pro Glu	
50	55
Arg Ser Ile Gly Lys Ser Pro Val Thr Tyr Asn Tyr Leu Gly Leu Arg	
65	70
Ser Gln Val Ile Ile Ser Arg Lys Ile Glu Leu Met Met Trp Ala Glu	
85	90
Leu His Glu Tyr Leu Asp Glu Gln Lys His Arg Tyr Gly Ile Lys Tyr	
100	105
Ile Asp Gly Val Gln Phe Phe Met Arg Arg Tyr Gly Ile Asp Ser Leu	
115	120
Thr Glu Glu Ala Phe Leu Lys His Tyr Gln Arg Trp Arg Ala Lys Val	
130	135
Arg Arg Lys Glu Lys Arg Ser Tyr Lys Lys Arg Glu	
145	150
	155

&lt;210&gt; 5579

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5579

Glu Asp Asp Thr Gly Asp Asn Gly Tyr Thr Phe Thr Ser Cys Ile Pro  
 1 5 10 15  
 Thr Ser Ser Tyr Asn Ser Gly Leu Asp Ser Asp Lys Thr Tyr Asn Asn  
 20 25 30  
 Thr Lys Val Tyr His Ser Ser Ser Leu Ile Gln Val Ile Lys Ser Glu  
 35 40 45  
 Leu Thr His Glu Ala Ala Leu Leu His Val Leu Phe Leu Ser Val Met  
 50 55 60  
 Cys Leu Arg Ile Ile Gly Tyr Arg Arg Gly Leu Met Leu Ser Ser Tyr  
 65 70 75 80  
 Ser Trp His Ser Pro Phe Phe Ser Phe Ser Ile Trp Leu Ile Arg Leu  
 85 90 95  
 Arg Ile Ala Ile Asn Leu Ser  
 100

&lt;210&gt; 5580

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5580

Ala Gly Cys Thr Ser Leu Leu Ala Asn Lys Thr Lys Ala Gln Ile Gln  
 1 5 10 15  
 Ala Ile Asn Asp Ile Val Ile Ala Ile Val Phe Asn Ile Arg Ser Trp  
 20 25 30  
 Pro Leu Val Asn Ala Pro Ser Gly Ile Pro Leu Pro Ile Ile Phe Glu  
 35 40 45  
 Leu Ala Gly Ile Asn Glu Lys Arg Val Glu Asp Val Ala Ala Val Ala  
 50 55 60  
 Ile Gln Val Val Ile Ser Pro Thr Pro Ala Thr Thr Cys Pro Ala Thr  
 65 70 75 80  
 Lys Glu Glu Val Glu Val Asp Arg Val Asn Met Gln Ile Pro Pro Ile  
 85 90 95  
 Ile Val Thr Thr Ala Ala Arg  
 100

&lt;210&gt; 5581

&lt;211&gt; 380

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5581

Leu Gln Cys Thr Met Ser Leu Thr Ala Asn Ile Tyr Pro Ser Thr Ile  
 1 5 10 15  
 Ala Leu Ala Gly Asn Pro Ile Lys Leu Thr Ile Asn Ser Ser Ser Val  
 20 25 30  
 Val Ser Tyr Thr Ile Arg Gln Ala Asp Arg Thr Ile Phe Ser Gly Ser  
 35 40 45  
 Gly Glu Gly Glu Phe Ser Val Phe Leu Gln Asp Ile Leu Ser Gly Ile  
 50 55 60  
 Leu Ser Pro Lys His Leu Leu Asn Glu Ser Thr Asp Ile Leu Leu Leu  
 65 70 75 80  
 Asp Ser Thr Ser Ala Thr Asp Ile Ala Ile Ser Val Gln Asn Thr Gln  
 85 90 95  
 Gly Glu Thr Lys Thr Leu Ser Leu Lys Ala Val Ile Gly Gly Ile Ser



	100		105		110	
Lys	Arg	Leu	Leu	Arg	Arg	Leu
	115		120		125	
Trp	Lys	Leu	Phe	Asn	Ser	Ser
	130		135		140	
Asn	Gly	Arg	Ile	Ile	Thr	Ile
145			150		155	
Phe	Leu	Tyr	Pro	Asp	Gly	Ala
			165		170	
Thr	Ser	Leu	Ser	Gly	Thr	Ala
	180		185		190	
Arg	Leu	Arg	Lys	Lys	Leu	Phe
	195		200		205	
Phe	Asp	Ile	Tyr	Ser	Gly	Ser
210			215		220	
Pro	Gly	Thr	Val	Ser	Arg	Glu
225			230		235	
Tyr	Gly	Ala	Tyr	Glu	Arg	Ile
			245		250	
Ser	Glu	Ile	Glu	Ser	Asp	Ser
	260		265		270	
Asp	Asp	Tyr	Ile	Glu	Ala	Arg
	275		280		285	
Leu	Val	Glu	Ser	Gly	Tyr	Arg
290			295		300	
Asp	Met	Leu	Ala	Ser	Asp	Asp
305			310		315	
Asn	Ile	Arg	Val	Asn	Ala	Val
			325		330	
Ser	Thr	Val	Pro	Glu	Ser	Ile
	340		345		350	
Asp	Val	Arg	Tyr	Thr	Gly	Ser
	355		360		365	
Arg	Ile	His	Thr	Glu	Gln	Phe
	370		375		380	

&lt;210&gt; 5582

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5582

Lys	Tyr	Arg	Phe	Asn	Leu	Arg	Asn	Arg	Arg	Lys	Met	Asn	Ala	Ile	Ile
1			5				10				15				
Pro	Asp	Ile	Asp	Thr	Leu	Lys	Lys	Val	Val	Lys	Ile	Asn	Ala	Thr	Leu
	20						25				30				
Pro	Asp	Glu	Ala	Ile	Asn	Pro	Tyr	Ile	Asp	Asp	Ala	Met	Asp	Ile	Tyr
	35						40				45				
Leu	Thr	Pro	Tyr	Ile	Gly	Ile	Lys	Thr	Val	Glu	Lys	Ala	Leu	Thr	Gly
	50						55				60				
Thr	Asp	Lys	Arg	Leu	Asn	Asp	Lys	Ile	Leu	Arg	Thr	Leu	Gly	Pro	Leu
65					70				75					80	
Thr	Leu	Met	Leu	Ala	Thr	Pro	Glu	Leu	Gly	Ile	Arg	Ile	Gly	Asp	Ser
			85				90						95		
Gly	Ile	Thr	Val	Glu	Asn	Lys	Gln	Gly	Thr	Tyr	Ser	Pro	Ala	Asn	Glu
			100				105					110			
Ala	Lys	Ile	Ala	Ala	Ala	Lys	Glu	Ser	Phe	Tyr	Phe	Arg	Gly	Met	Gln
	115						120					125			
Ala	Leu	Asp	Arg	Leu	Leu	Thr	Phe	Leu	Thr	Asp	His	Pro	Glu	Thr	Tyr

130	135	140
Pro Glu Tyr Ala Glu His Cys Lys Gln Ala Thr Asp Ser Ser Cys Phe		
145	150	155
Ile Arg Asp Ala Arg Glu Phe Gln Asp Thr Gly Leu Val Asn Ile Glu		160
	165	170
Tyr Ser Thr Val Ser Phe Arg Met Met Leu Pro Thr Val Arg Gln Leu		175
	180	185
Gln Glu Arg Asn Val Arg Glu Met Leu Lys Glu Asp Leu Tyr Gln Arg		190
	195	200
Leu Leu Asp Ala His Thr Ala Gly Lys Glu Leu Thr Pro Lys Glu Lys		205
	210	215
Val Leu Leu Gly His Ile Leu Arg Tyr Leu Ala Asn Lys Thr Ala Glu		220
225	230	235
Leu Tyr Thr Ser Gln Thr Ser Arg Glu Gln Arg Thr Ile Asn Asp Thr		240
	245	250
Pro Glu Phe Thr Pro Ile Ile Arg Pro Ile Tyr Gln Asp Gln Ala Ala		255
	260	265
Thr Gly Asn Phe Phe Ala Asp Gln Ala Thr Tyr Tyr Ala Gly Lys Ile		270
	275	280
Gln Asn Phe Ile Ser Glu Asn Ala Glu Glu Leu Gly Val Thr Pro Thr		285
	290	295
Val Thr Ala Ile Asn Phe Asn Ser Lys Glu Lys Arg Ile Phe Thr Ser		300
305	310	315
Ile Ser		320

&lt;210&gt; 5583

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5583

Asn Met Ile Thr Trp Asp Asn Phe Tyr Leu Phe Ala Val Ala Ser Ile		
1	5	10
Cys Leu Trp Leu Thr Gly Ala Ile Phe Ala Leu Arg Ser Ser Val Arg		15
	20	25
Ser Arg Met Ala Val Val Leu Thr Ile Ala Gly Ile Thr Cys Leu Gly		30
	35	40
Ile Phe Ile Ala Gly Leu Trp Ile Ser Leu Gln Arg Pro Pro Leu Arg		45
	50	55
Thr Met Gly Glu Thr Arg Leu Trp Tyr Ser Phe Phe Met Gly Ile Ala		60
65	70	75
Gly Leu Leu Thr Tyr Ile Arg Trp Lys Tyr Arg Trp Ile Leu Ser Phe		80
	85	90
Ser Thr Leu Leu Ser Thr Val Phe Val Ile Ile Asn Leu Leu Lys Pro		95
	100	105
Glu Ile His Asp Gln Ser Leu Met Pro Ala Leu Gln Ser Ile Trp Phe		110
	115	120
Ile Pro His Val Thr Val Tyr Met Phe Ser Tyr Ser Val Leu Gly Cys		125
	130	135
Ala Phe Ile Ile Ala Leu Cys Gly Leu Val His His Lys Glu Glu Tyr		140
145	150	155
Leu Val Thr Ala Asp Asn Leu Val Tyr Ser Gly Val Ala Phe Leu Ser		160
	165	170
Ile Gly Met Leu Leu Gly Ser Leu Trp Ala Lys Glu Ala Trp Gly Asn		175
	180	185
Tyr Trp Ser Trp Asp Pro Lys Glu Thr Trp Ala Val Val Thr Trp Met		190
	195	200
Gly Tyr Leu Leu Tyr Ile His Leu Arg Leu Arg Arg Lys Phe Arg Lys		205

210	215	220
Lys Met Leu Tyr Val	Ile Leu Ile Phe Ser Phe	Leu Ala Leu Gln Met
225	230	235
Cys Trp Tyr Gly Val	Asn Tyr Leu Pro Ser Ala	Gln Gln Ser Val His
245	250	255
Leu Tyr Asn Arg Asn Asn		
260		

<210> 5584  
 <211> 1249  
 <212> PRT  
 <213> B.fragilis

<400> 5584

Ile Asn Glu Thr Val Ser Asn Met Ala Asn Asp Leu Asn Arg Ser Ile		
1	5	10
Lys Leu Tyr Ile Asp Gly Ser Glu Ala Thr Asn Lys Ile Asp Leu Val		
20	25	30
Lys Glu Ser Ile Ser Arg Leu Glu Asp Lys Leu Arg Ser Leu Thr Gly		
35	40	45
Lys Glu Val Asp Tyr Ala Lys Arg Ser Gln Asp Leu Lys Lys Glu Leu		
50	55	60
Asp Ala Lys Asn Arg Thr Leu Gln Asn Tyr Glu Lys Gln Leu Ala Glu		
65	70	75
Thr Glu Arg Val Leu Lys Ser Leu Ser Gly Ala Thr Tyr Asn Glu Leu		
85	90	95
Leu Ala Val Gln Ser Arg Val Arg Lys Glu Leu Arg Asn Ala Val Pro		
100	105	110
Gly Thr Lys Gln Tyr Thr Ala Ala Leu Glu Gln Asn Arg Arg Val Thr		
115	120	125
Glu Ala Leu Ser Arg Ala Gln Ala Asn Met Arg Val Glu Val Gly Ala		
130	135	140
Gln Gly Asn Ile Trp Ser Arg Ala Ser Gly Phe Ile Asn Lys Tyr Ile		
145	150	155
Gly Leu Ile Gly Thr Val Ile Ala Ala Ile Thr Gly Val Ser Met Lys		
165	170	175
Leu Asn Gln Leu Arg Glu Gln Arg Asn Lys Arg Glu Glu Ala Lys Ala		
180	185	190
Asp Val Glu Ala Leu Thr Gly Leu Ser Lys Asp Asp Ile Asn Trp Leu		
195	200	205
Glu Gln Gln Ala Val Gln Leu Ser Thr Thr Met Thr Glu Ser Gly Ile		
210	215	220
Arg Ile Arg Gln Ser Ala Thr Glu Ile Leu Asp Ala Tyr Lys Leu Val		
225	230	235
Gly Ser Ala Lys Pro Glu Phe Leu Asp Asn Lys Glu Ala Leu Ala Glu		
245	250	255
Val Thr Lys Gln Thr Leu Ile Leu Ala Ser Ala Ser Gly Met Thr Leu		
260	265	270
Lys Asp Ala Val Asp Ala Val Thr Leu Ser Leu Asn Gln Tyr Gly Asp		
275	280	285
Gly Ala Asp Gln Ala Ser Arg Tyr Ala Asn Val Met Ala Ala Gly Ser		
290	295	300
Lys Tyr Gly Ala Ala Ala Val Glu Ser Val Thr Ala Val Thr Lys		
305	310	315
Ser Gly Val Ala Ala Ser Ala Glu Ile Pro Ile Glu Gln Leu Val		
325	330	335
Gly Thr Ile Glu Thr Leu Ala Glu Lys Gly Ile Lys Asp Glu Ile Ala		
340	345	350
Gly Thr Gly Leu Lys Lys Phe Phe Leu Thr Leu Gln Thr Gly Ala Asp		

355	360	365
Asp Thr Asn Pro Lys Ile Val Gly Leu Glu Lys Ala Leu Asp Asn Leu		
370	375	380
Gln Lys Lys Gln Leu Ser Ala Ala Gln Ile Lys Lys Gln Phe Gly Glu		
385	390	395
Glu Gly Tyr Asn Val Ala Ser Val Leu Ile Asn Glu Ala Asp Lys Val		
405	410	415
Lys Tyr Tyr Thr Glu Ala Val Thr Gly Thr Ser Val Ala Met Glu Gln		
420	425	430
Ala Ala Thr Lys Ser Glu Thr Ala Ala Ala Lys Leu Ser Gln Ala Lys		
435	440	445
Asn Arg Met Gln Glu Leu Gly Ile Glu Leu Leu Glu Lys Leu Asn Pro		
450	455	460
Ala Leu Ile Ser Ala Ala Asn Gly Ala Val Ser Trp Thr Gly Lys Leu		
465	470	475
Ile Lys Leu Leu Asn Phe Ile Asn Glu Asn Lys Arg Ala Ile Thr Leu		
485	490	495
Leu Thr Ile Ala Leu Ile Ala Tyr Thr Ala Ala Lys Asn Ser Asp Val		
500	505	510
Ile Ile Ser Lys Val Val Thr Phe Trp Asn Asn Asn Ile Ala Lys Ser		
515	520	525
Leu Lys Ala Ile Lys Lys Glu Leu Met Thr Asn Pro Tyr Gly Ile Ile		
530	535	540
Ala Val Val Ala Ala Thr Ala Ile Ala Tyr Leu Ile Asn Leu Lys Lys		
545	550	555
Lys Asn Asp Glu Leu Lys Asp Ser Val Ser Gly Ile Lys Lys Val Asn		
565	570	575
Glu Glu Thr Asn Lys Ser Phe Ile Gln Gln Glu Ser Lys Ile Arg Ala		
580	585	590
Leu Thr Ala Val Ile Asn Asp Asn Gly Ile Ala Leu Gly Val Arg Arg		
595	600	605
Lys Ala Leu Asn Asp Leu Lys Glu Ile Ile Pro Asp Tyr Asn Ala Gln		
610	615	620
Leu Thr Asp Glu Gly Thr Leu Thr Lys Asn Asn Thr Asp Ala Ile Lys		
625	630	635
Asp Tyr Leu Val Gln Leu Glu Lys Gln Ile Lys Leu Lys Ala Ala Gln		
645	650	655
Gln Glu Leu Glu Asn Leu Tyr Ala Gln Lys Arg Thr Leu Glu Lys Asp		
660	665	670
Glu Glu Thr Gln Ser Asp Gln Tyr Trp Lys Ile Arg Gln Thr Asn Thr		
675	680	685
Leu Gln Gly Tyr Asn Arg Asn Ser Leu Thr Ala Lys Ile Ser Arg Leu		
690	695	700
Phe Gly Thr Glu Lys Glu Gly Lys Ala Leu Glu Thr Leu Asn Glu Thr		
705	710	715
Arg Lys Asn Leu Ser Ser Ile Ser Glu Lys Ile Asp Glu Ile Thr Lys		
725	730	735
Glu Ile Gly Glu Ser Ala Leu Ala Ile Glu Glu Val Asn Lys Ala Asn		
740	745	750
Glu Glu Thr Thr Asn Asn Lys Ile Thr Thr Pro Ile Ile Asp Glu Glu		
755	760	765
Lys Ala Lys Ala Leu Leu Lys Lys Lys Leu Glu Glu Glu Ala Lys Leu		
770	775	780
Tyr Ser Gln His Gln Ser Glu Leu Lys Glu Ala Tyr Leu Lys Arg Gln		
785	790	795
Asp Glu Thr Leu Gln Thr Glu Gln Gln Phe Asn Asp Arg Met Glu Thr		
805	810	815
Leu Glu Leu Glu His Gln Gln Arg Ile Ile Asn Ile Ala Gly Ala Lys		
820	825	830

Ser Lys Glu Gly Ile Asp Ala Gln Asn Arg Ile Asn Asp Ile Lys Ile  
 835 840 845  
 Lys Gln Gln Lys Glu Gln Met Asn Arg Gln Leu Ala Glu Glu Lys Thr  
 850 855 860  
 Leu Tyr Glu Asn Gln Gln Lys Asp Leu Lys Leu Leu Tyr Val Ser Gly  
 865 870 875 880  
 Lys Asp Glu Asn Leu Lys Thr Glu Lys Glu Tyr Asn Glu Ala Met Glu  
 885 890 895  
 His Leu Thr Ile Met His Leu Glu Arg Val Leu Lys Ile Ala Asn Leu  
 900 905 910  
 Asp Ala Asp Gln Arg Arg Thr Ile Glu Gln Gln Leu Leu Asp Phe Lys  
 915 920 925  
 Val Lys Cys Leu Gln Asp Glu Glu Lys Glu Arg Lys Lys Leu Glu Asp  
 930 935 940  
 Ala Ala Gln Lys Lys Lys Asp Glu Leu Ala Arg Lys Glu Lys Gln Arg  
 945 950 955 960  
 Leu Thr Glu Gln Ala Gln Gln Tyr Arg Gln Tyr Gly Glu Gln Ile Gly  
 965 970 975  
 Asp Thr Leu Gly Gln Met Ile Ser Gly Gln Glu Asn Ala Leu Gln Asn  
 980 985 990  
 Phe Ala Asp Thr Met Leu Asp Ile Leu Phe Asp Val Leu Ser Gln Met  
 995 1000 1005  
 Ile Asp Ile Glu Ile Ala Lys Ala Thr Gly Val Ala Val Gly Ala Val  
 1010 1015 1020  
 Ala Arg Ser Ala Ala Glu Ala Tyr Ala Met Pro Asp Ser Val Ala Thr  
 1025 1030 1035 1040  
 Phe Gly Ala Thr Gly Ala Ala Arg Ala Ala Val Leu Ser Gly Leu Ile  
 1045 1050 1055  
 Met Gly Ala Leu Ala Ala Ala Lys Ser Thr Leu Lys Gly Leu Ile Lys  
 1060 1065 1070  
 Arg Gly Ser Ser Ser Thr Ser Ala Ile Asp Asn Asn Thr Asp Ser Thr  
 1075 1080 1085  
 Lys Thr Ala Gln Val Gln Val Lys Gln Trp Ala Ser Gly Arg Tyr Asp  
 1090 1095 1100  
 Val Ile Gly Glu Asp Asp Gly Arg Thr Tyr Arg Asp Val Pro Tyr Ile  
 1105 1110 1115 1120  
 Gly Asp Ser Pro Thr Gly Ile Val Arg Arg Thr Ser Leu Ile Ser Glu  
 1125 1130 1135  
 Ser Gly Ala Glu Leu Ile Ile Asn Ala Glu Asp Leu Ser Arg Leu Gln  
 1140 1145 1150  
 His His Ile Asn Tyr Pro Ile Val Val Gln Ala Ile Gln Asp Ala Arg  
 1155 1160 1165  
 Ser Gly Arg Val Pro Gln Arg Ala Glu Gly Asn Tyr Asp Pro Ile Arg  
 1170 1175 1180  
 Asn Ser Ile Ser Arg Thr Ser Gln Thr Thr Ser Ser Pro Thr Asp Lys  
 1185 1190 1195 1200  
 Glu Ala Asn Leu Ala Gln Leu Ile Lys Glu Leu His Ala Leu Ile Glu  
 1205 1210 1215  
 Lys Leu Lys Tyr Leu Lys Ala Tyr Val Val Leu Arg Glu Leu Asn Glu  
 1220 1225 1230  
 Ala Gln Glu Leu Ala Asp Lys Ser Lys Glu Pro Phe Thr Arg Lys Lys  
 1235 1240 1245  
 Gln

&lt;210&gt; 5585

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5585

Thr Met Glu Thr Leu Thr Ala Leu Gln Trp Ala Lys Lys Gly Phe Ile  
 1 5 10 15  
 Pro Asn Glu Gly Val Lys Gly Thr Glu Gln Trp Thr Asn Cys Tyr Tyr  
 20 25 30  
 Ser Ala Lys Ala Val Tyr Phe Lys Asp Ser Glu Val His Glu Asp Lys  
 35 40 45  
 Asp Ala Ala Lys Ala Ile Leu Ser Ala Lys Arg Lys Glu Tyr Arg Asp  
 50 55 60  
 Ala Ala Lys Lys Arg Glu Glu Lys Arg Lys Lys Asn Ala Ala Tyr Arg  
 65 70 75 80  
 Glu Lys Met Lys Thr Arg Trp Gln Trp Leu Gln Glu Gly Arg Ile Pro  
 85 90 95  
 Asn Asp Asn Ala Arg Trp Lys Val Gly Glu Glu Leu Asn Lys Thr Phe  
 100 105 110  
 Cys Thr Cys Ala Tyr Gly Ser Asn Tyr Cys Tyr Cys His Glu Arg Tyr  
 115 120 125  
 Thr His Glu Pro Lys Asn Asp Glu Glu Met Gln Lys Ala Ile Phe Asp  
 130 135 140  
 Phe His Lys Asn Gly Asn Ser Trp Val  
 145 150

&lt;210&gt; 5586

&lt;211&gt; 365

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5586

Arg Leu Met Thr Lys Leu Ile Arg Thr Phe His Pro Val Gly His Gly  
 1 5 10 15  
 Ala Phe Tyr Thr Glu Lys His Val Leu Glu Asp Gln Thr Ile Asn Ile  
 20 25 30  
 Val Tyr Asp Cys Gly Ser Lys Thr Leu Glu Lys Gln Leu Pro Ser Ile  
 35 40 45  
 Ile Asn Asn Thr Phe Lys Lys Gly Glu Glu Ile Glu Phe Leu Phe Ile  
 50 55 60  
 Ser His Phe Asp Ala Asp His Val Asn Gly Ile Glu Tyr Leu Lys Thr  
 65 70 75 80  
 Tyr Cys Lys Ile Lys Lys Val Val Ile Pro Leu Ile Glu Asp Lys Asp  
 85 90 95  
 Ala Ile Leu Ile Ile Lys Ala Ile Asn Thr Ser Lys Ile Gly Ser Asn  
 100 105 110  
 Lys Leu Asp Thr Leu Ile Asp Ser Pro Glu Glu Tyr Phe Pro Gly Ser  
 115 120 125  
 Glu Ile Ile Lys Val Lys Ala Val Asn Glu Gly Tyr Asp Asp Asp Arg  
 130 135 140  
 Tyr Phe Ala Asn Asp Leu Asn Asn Gly Gly Thr Ile Pro Ser Gly Ser  
 145 150 155 160  
 Glu Ile Ile Leu His Lys Ser Ser Ala Glu Asn Lys Trp Cys Phe Ile  
 165 170 175  
 Pro Phe Asn Tyr Asn Tyr Thr Glu Arg Val Asn Leu Phe Lys Asp Lys  
 180 185 190  
 Ile Lys Glu Lys Gly Leu Ile Phe Asn Lys Leu Asn Asn Ile Asp Tyr  
 195 200 205  
 Val Gln Ile Ser Gln Lys Thr Ile Lys Ser Ile Tyr Lys Ala Ile Lys  
 210 215 220  
 Gly Lys Ala Asn Gly Asn Ser Leu Val Val Phe Ser Gly Gly Asp Tyr  
 225 230 235 240

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 87  
 88  
 89  
 90  
 91  
 92  
 93  
 94  
 95  
 96  
 97  
 98  
 99  
 100

Ala Ile Ser Ala Thr His Tyr Phe Ser Thr Asp Lys Lys Ile Val Leu  
                   245                  250                  255  
 Glu Tyr Asp Arg Cys Ser Tyr Ile Ser Cys Ile Tyr Leu Gly Asp Ser  
                   260                  265                  270  
 Phe Ala Asn Lys Ser Asp Phe Tyr Ser Gln Leu Lys Gly Arg Leu Asp  
                   275                  280                  285  
 Lys Leu Thr Glu Ser Ile Gly Ile Ile Gln Ile Ala His His Gly Ala  
                   290                  295                  300  
 Lys Gly Asn Phe Ser Pro Asn Ile Leu Lys Leu Gly Thr Asn Pro Leu  
 305                  310                  315                  320  
 Ala Ile Ile Ser Cys Lys Ser Thr Asp Lys His His Pro Ser Val Asn  
                   325                  330                  335  
 Val Val Lys Gln Ile Gln Glu Asn Gly Ser Ile Pro Phe Ile Val Thr  
                   340                  345                  350  
 Glu Lys Pro Thr Thr Glu Val Glu Gln Ile Gly Tyr Tyr  
                   355                  360                  365

&lt;210&gt; 5587

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5587

Leu Phe Tyr Phe Thr Leu Phe Ser Thr Glu Ser Val Glu Ser Arg Ser  
 1                  5                  10                  15  
 Asn Leu Lys Leu Leu Leu Phe Leu Asn Leu Phe Ile Asn Phe Tyr Phe  
                   20                  25                  30  
 Phe Tyr Phe Met Asn Met Tyr Ile Gly Asn Leu Ser Tyr Arg Val Lys  
                   35                  40                  45  
 Glu Ala Asp Leu Arg Gln Val Met Glu Glu Tyr Gly Thr Val Asp Ser  
                   50                  55                  60  
 Val Lys Leu Ile Ile Asp Arg Glu Thr Arg Lys Ser Lys Gly Phe Ala  
 65                  70                  75                  80  
 Phe Val Glu Met Pro Asn Asp Asp Glu Ala Lys Asn Val Ile Ser Glu  
                   85                  90                  95  
 Leu Asn Gly Ala Glu Tyr Glu Gly Arg Gln Met Val Val Lys Glu Ala  
                   100                  105                  110  
 Leu Pro Arg Asn  
                   115

&lt;210&gt; 5588

&lt;211&gt; 432

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5588

Lys Asn Ile Ala Lys Val Ser Phe Ile Phe Ile Thr Gly Gln Leu Ser  
 1                  5                  10                  15  
 Tyr Asn Phe Ile Pro Leu His Phe Ile Thr Thr Ile Lys Ser Met Arg  
                   20                  25                  30  
 Lys Phe Ile Ile Ser Phe Cys Cys Tyr Val Phe Phe Ile Phe Thr Leu  
                   35                  40                  45  
 Ala Ala Gln Asp Lys Ala Pro His Tyr Thr Val Ile Val Ser Leu Asp  
                   50                  55                  60  
 Ala Phe Arg Trp Asp Tyr Pro Ala Met Tyr Asp Thr Pro Asn Leu Asn  
 65                  70                  75                  80  
 Gln Met Ala Arg Glu Gly Val Lys Ala Thr Met Leu Pro Ser Tyr Pro  
                   85                  90                  95  
 Ala Ser Thr Phe Pro Asn His Tyr Thr Leu Ala Thr Gly Leu Val Pro

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      100              105              110
Asp His Asn Gly Ile Ile Asn Asn Thr Phe Trp Asp Val Lys Arg Arg
      115              120              125
Arg Gln Tyr Ser Met Gly Asp Pro Ala Thr Arg Asn Asn Pro Asp Tyr
      130              135              140
Tyr Leu Gly Glu Pro Ile Trp Ile Thr Ala Gln Lys Gln Gly Val Lys
      145              150              155              160
Thr Gly Asn Val Tyr Trp Val Gly Ser Asp Ile Ala Ile Lys Gly Gly
      165              170              175
Tyr Pro Thr Tyr Tyr Arg Glu Tyr Ala Glu Lys Pro Arg Leu Thr Phe
      180              185              190
Glu Gln Arg Val Asp Ser Thr Ile Ala Leu Leu Glu Lys Pro Glu Ala
      195              200              205
Glu Arg Pro Arg Leu Val Met Leu Tyr Phe Glu Glu Pro Asp Gly Val
      210              215              220
Thr His His His Gly Pro Arg Ser Val Glu Ala Ala Ala Ile Ile His
      225              230              235              240
Arg Met Asp Ser Leu Val Gly Met Leu Arg Gln Gly Ile Ala Ser Leu
      245              250              255
Pro Phe Gly Lys Asp Val Asn Leu Ile Val Thr Ala Asp His Gly Met
      260              265              270
Thr Glu Ile Ser Asp Asp Arg Val Val Asp Met Asn Lys Tyr Leu Arg
      275              280              285
Pro Glu Trp Cys Glu Ala Val Asp Gly Arg Thr Pro Thr Ser Ile Phe
      290              295              300
Thr Lys Pro Glu Tyr Arg Asp Ser Val Tyr Asn Ala Leu Lys Asp Val
      305              310              315              320
Pro His Ile His Val Trp Lys Lys Glu Glu Ile Pro Val Glu Leu Asn
      325              330              335
Tyr Gly Ser Ser Asp Arg Ile Gly Asp Ile Val Val Ala Pro Glu Leu
      340              345              350
Gly Trp Gln Phe Thr Asp Val Pro Arg Ala Leu Lys Gly Ala His Gly
      355              360              365
Tyr Phe Pro Gln Ser Pro Asp Met Gln Val Met Phe Arg Ala Cys Gly
      370              375              380
Pro Asp Phe Lys Ala Gly Tyr Glu Ser Lys Gly Phe Val Asn Val Asp
      385              390              395              400
Ile Tyr Pro Leu Leu Ala His Leu Leu Lys Ile Thr Pro Glu Lys Thr
      405              410              415
Asp Gly Gln Phe Glu Arg Ile Lys Asp Ile Leu Lys Asp Val Ser Phe
      420              425              430

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&lt;210&gt; 5589

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5589

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Tyr Ile Tyr Phe Met Thr Arg Asn Glu Gln Leu Glu Lys Trp Leu Ser
1              5              10              15
Asn Arg Gln Arg Arg Tyr Ala Asp Gly Met Glu Leu Phe Asn Ala Leu
      20              25              30
Ala Lys Ala Asn Thr Lys Ser Ser Tyr Gly Asn Tyr Leu Ser Gln Ala
      35              40              45
Pro Glu Asn Pro His Ile Phe Asp Pro His Phe Thr Gln Leu Val Asn
      50              55              60
Ile Leu Thr Lys Ile Ala Arg Glu Ile Lys Asp Ala Pro Ser Val Tyr
      65              70              75              80
Pro Ala Ala Phe Glu Glu Ile Leu Ile Val Gln Thr Leu Asn Asp Glu

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Gly Thr Gly Lys Ser Glu Gly Ile Asp Ala Arg Phe Ile Leu Arg Asn  
 50 55 60  
 Val Trp Glu Met Pro Gly Ser Leu Gly Gly Met Ile Ser Pro Ser Tyr  
 65 70 75 80  
 Ala Lys Ala Trp Gly Asn Thr Leu Pro Ala Ile Cys Lys Ala Leu Ala  
 85 90 95  
 Glu Trp Gly Tyr Ile Gln Asn Ile His Tyr Val Val Gly His Lys Ala  
 100 105 110  
 Pro Pro Ser Met Gly Phe Ala Lys Pro Val Arg Pro Val Leu Gly Asp  
 115 120 125  
 Gly Trp Ser Asn Ala Phe His Phe Trp Asn Gly Thr Val Met Val Ile  
 130 135 140  
 Leu Ser Phe Asn Gln Gly Met Ser Ala Asn Ser Met Ser Leu Asp Trp  
 145 150 155 160  
 Val Ile Gly Pro Glu Ala Lys Phe Leu Ser Tyr Asp Lys Ile Lys Asn  
 165 170 175  
 Glu Val Asn Pro Ala Asn Arg Gly Asn Arg Gln Tyr Phe Gly His Cys  
 180 185 190  
 Pro His His His Ser Val Cys Tyr Ser Thr Asp Met Pro Gly Ser Ser  
 195 200 205  
 Met Gly Arg Trp Ile Leu Asp Lys Gln Glu Glu Met Gln Pro Pro His  
 210 215 220  
 Ile Gln Leu Ile Arg Asn Leu Tyr Lys Glu Leu Gln Asp Tyr Lys Arg  
 225 230 235 240  
 Lys Pro Leu Thr Glu His Thr Met Arg Met Ile Arg Glu Leu Gln Arg  
 245 250 255  
 Asp Leu Asp Ile Ala Arg Lys Phe Gln Pro Ala Leu Lys Pro Asn Asp  
 260 265 270  
 Lys Lys Lys Arg Glu Tyr Thr Val Phe Tyr Gly Glu Tyr Asp Val Phe  
 275 280 285  
 Asp Asn Leu Glu Val Leu Gly Glu Asp Phe Ile Trp Gln Met Gln Arg  
 290 295 300  
 Asp Ser Pro Pro Leu Val Trp Arg Thr Ala Phe Leu Asn Glu Arg Leu  
 305 310 315 320  
 Met Lys Val Pro Asn Gly Phe Tyr Ser Ala Leu Asp Asp Arg Ile His  
 325 330 335  
 Phe Tyr Gln Pro Ala Asp Asn Gly Arg Leu Lys Asn Leu Gly Ser Asn  
 340 345 350  
 Trp Lys Gln Leu Ser Ser Cys Gly Cys Leu Gly Asp Gly Asp Leu Asp  
 355 360 365  
 Phe Asp Lys Glu Leu His Ile Ala Phe Asp Ser Asn Ala Ser Ile Ser  
 370 375 380  
 Thr Ala Val Val Ala Gln Leu Asp Gly Asn Thr Met Lys Ile Ile Lys  
 385 390 395 400  
 Ser Phe Tyr Val Lys Thr Pro Ser Lys Leu Gly Asp Leu Val Gln Gln  
 405 410 415  
 Ile Ala Asp Tyr Tyr Arg Pro Lys Leu Asn His Asp Val Val Val Tyr  
 420 425 430  
 Tyr Asp His Thr Phe Thr Trp Glu Ser Gly Ser Thr Thr Glu Thr Tyr  
 435 440 445  
 Ala Asp Ile Ile Glu Arg Val Phe Lys Glu Asn Arg Tyr Thr Pro Ala  
 450 455 460  
 Met Val Tyr Val Gly Gln Ala Pro Lys His Glu Trp Lys His Leu Asn  
 465 470 475 480  
 Ile Asp Leu Ala Leu Lys Gly Asp Pro Gln Phe Leu Trp Ile Arg Phe  
 485 490 495  
 Asn Leu Tyr Gln Asn Glu Phe Leu Lys Ile Ala Met Glu Gln Thr Gly  
 500 505 510  
 Ile Lys Gln Gly Lys Asn Gly Phe Glu Lys Asp Lys Ala Pro Glu Gly

515	520	525
Thr Asp Thr Pro Asp Asn Pro Asp Gln Tyr Lys Thr His Val Thr		
530	535	540
Asp Ala Phe Asp Thr Leu Trp Leu Gly Met Asn Phe Tyr Phe Thr Arg		
545	550	555
Pro Gly Thr Gly Thr Gly Gly Ile Phe Phe Leu Asn Arg Lys		
565	570	

&lt;210&gt; 5592

&lt;211&gt; 1018

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5592

Thr Met Tyr Phe Asn Asp Asp Glu Ile Arg Arg Ile Lys Asp Ala Ala		
1	5	10
Thr Gly His Leu Leu Asp Val Ala Gln Asp Phe His Glu Leu Lys Arg		
20	25	30
Ser Gly Val Asn Tyr Asn Cys Asp Cys Pro Arg Cys Lys Ala Ala Lys		
35	40	45
Lys Leu Ser Ile Ser Pro Ala Lys Gln Ile Phe Lys Cys Phe Gly Cys		
50	55	60
Asn Glu Leu Lys Gly Gly Asp Ser Val Ser Phe Leu Met Ser Ala Glu		
65	70	75
Gly Met Thr Phe Asn Asp Ala Leu Glu Tyr Leu Ala Lys Lys Phe Asn		
85	90	95
Val Ile Leu Asp Gln Arg Pro Ala Ile Lys Lys Gln Pro Ala Lys Lys		
100	105	110
Met Lys Lys Ser Ser Lys Ala Ala Lys Gly Ile Asp Val Asp Ser Tyr		
115	120	125
Cys Ala Arg Met Leu Ala Glu Ser Gly Leu Thr Phe Glu Asp Val Thr		
130	135	140
Ala Lys Val Tyr Lys Thr Gly Asp Thr Gln Ser Ile Phe Glu Gln Arg		
145	150	155
Thr Phe Arg Pro Gly Thr Ile Asp Glu Arg Gly Met Leu Thr Thr Lys		
165	170	175
Gly Asp Asp Val Ile Ile Glu Tyr Tyr Asp Leu Glu Gly Met Pro Val		
180	185	190
Val Phe Thr Arg Lys Asp Asn Lys Arg Arg Asp Val Gly Thr Pro Gln		
195	200	205
Glu Tyr Tyr Arg Ile Arg Trp Gln Phe Pro Asp Ala His Leu Asp Lys		
210	215	220
Glu Gly Lys Pro Tyr Lys Tyr Lys Ser Pro Arg Gly Ser Gly Thr Pro		
225	230	235
Ile Tyr Ile Pro Glu Arg Ile Arg Ser Leu Tyr Lys Ser Lys Thr Lys		
245	250	255
Ile Pro Arg Leu Tyr Ile Gln Glu Gly Glu Lys Lys Ala Glu Lys Ala		
260	265	270
Cys Lys His Gly Ile Pro Ser Ile Ala Val Ser Gly Ile Gln Asn Leu		
275	280	285
Gly Leu Tyr Gly Ala Leu Pro Glu Asp Leu Val Lys Ile Ile Ser Thr		
290	295	300
Cys Glu Val Gln Glu Val Ala Phe Ile Phe Asp Ser Asp Trp Asp Asp		
305	310	315
Ile Ser Ser Asn Ile Arg Ile Asn Asp Gln Val Glu Lys Arg Pro Arg		
325	330	335
Cys Phe Phe Tyr Ala Ala Lys Asn Phe Lys Glu Tyr Met Arg Ser Leu		
340	345	350
Lys Asn Arg Asn Ile Phe Val Glu Ile Phe Val Gly His Ile Asn Lys		

355	360	365
Asn Glu Ala Gly Asp Lys Gly Leu Asp Asp Leu Leu Ala Asn Ser Leu		
370	375	380
Arg Gly Lys Glu Glu Glu Leu Ala Ala Asp Ile Glu Phe Ala Cys Asn		
385	390	395
Glu Lys Lys Gly Leu Gly Lys Tyr Ile Glu Met Phe Lys Val Thr Thr		
405	410	415
Trp Thr Asp His Lys Leu Gln Glu Leu Trp Gly Leu His Ser His Glu		
420	425	430
Val Phe Ala Glu Arg His Ala Asp Leu Leu Arg Asn Leu Pro Glu Phe		
435	440	445
Leu Phe Gly Arg Tyr Arg Trp Lys Phe Asp Glu His Gly Lys Val Ile		
450	455	460
Leu Ala Gln Pro Phe Asp Asp Asp Glu Lys Phe Trp Arg Glu Val Thr		
465	470	475
Lys Tyr Asp Arg Ser Gln Asn Glu Arg Ile Glu Tyr Glu Phe Cys Tyr		
485	490	495
Val Asn Ser Gln Asn Phe Leu Gln Asn Arg Gly Phe Gly Arg Leu Arg		
500	505	510
Arg Ile Asp Lys Ser Tyr Gln Phe Ile His Leu Glu Pro Pro Val Val		
515	520	525
Arg Ala Ile Asp Ala Ser Asp Ala Arg Asp Tyr Leu Phe Gln Phe Ala		
530	535	540
Lys His Asn Cys Lys Thr Glu Val Asn Glu Met Leu Ile Lys Gly Val		
545	550	555
Ser Gln Tyr Val Gly Pro Asp Lys Leu Ser Leu Leu Glu Phe Ile Gln		
565	570	575
Pro Asn Phe Val Lys Pro Asn Arg Glu Ser Gln Tyr Phe Tyr Phe Asp		
580	585	590
Lys Asn Cys Trp Leu Val Thr Lys Asp Ser Val Ser Glu Leu Gly Tyr		
595	600	605
Glu Asn Ile Thr His His Ile Trp Glu Glu Gln Arg Lys Met Thr Pro		
610	615	620
Ala Lys Tyr Leu Gly Lys Pro Leu Val Thr Phe Ser Arg Gln Asp Asn		
625	630	635
Thr Phe Thr Tyr Glu Leu Ser Glu Ala Gly Lys Lys Ser His Tyr Leu		
645	650	655
Gln Phe Leu Ile Asn Thr Ser Asn Phe Thr Trp Arg Lys Ser Ala Glu		
660	665	670
Glu Ile Glu Pro Glu Glu Glu Asn Glu Asn Arg Ile His Leu Leu Ser		
675	680	685
Lys Leu Cys Ala Ile Gly Tyr Met Val Met Glu Ala Lys Asp Asn Asn		
690	695	700
Val Ala Arg Ala Val Ile Gly Met Asp Gly Lys Gln Ser Glu Val Gly		
705	710	715
Glu Ser Asn Gly Arg Ser Gly Lys Ser Leu Val Gly Glu Leu Met Arg		
725	730	735
Asn Ile Ile Pro Thr Ala Tyr Ile Pro Gly Lys Arg Ser Asp Leu Phe		
740	745	750
Asn Asp Gln Phe Val Trp Asn Asp Ile Gln Glu Asn Thr Lys Leu Val		
755	760	765
Phe Ile Asp Asp Val Leu Gln Asn Phe Asn Phe Glu Phe Leu Phe Pro		
770	775	780
Asn Ile Thr Gly Asp Trp Ser Val Asn Tyr Lys Gly Gly Arg Arg Ile		
785	790	795
Thr Leu Pro Phe Ala Arg Ser Pro Lys Met Tyr Ile Ala Thr Asn His		
805	810	815
Ala Ile Arg Gly Ser Gly Ser Ser Tyr Thr Asp Arg Gln Trp Leu Leu		
820	825	830

Ala Phe Ser Asp Phe Tyr Asn Asp Thr His Lys Pro Val Asp Asp Phe  
835 840 845  
Gly Val Leu Phe Phe Ser Glu Trp Asp Phe Glu Gln Trp Asn Leu Thr  
850 855 860  
Trp Asn Leu Leu Ala Asn Cys Val Gln Leu Tyr Leu Thr Tyr Gly Val  
865 870 875 880  
Val Gln Ala Pro Gly Glu Arg Leu Glu Gln Arg Lys Leu Arg Gln Glu  
885 890 895  
Met Gly Glu Thr Leu Ile Ser Trp Ala Asp Glu Tyr Phe Ser Gly Glu  
900 905 910  
Glu His Leu Asn Val Arg Leu Pro Arg Lys Asp Leu Tyr Asp Ala Phe  
915 920 925  
Cys Gln Tyr Asp Asn Gln Gln Arg Lys Phe Val Ser Pro Thr Ala Phe  
930 935 940  
Lys Lys Lys Phe Ile Met Tyr Cys Ser Trp Lys Gly Tyr Val Phe Asn  
945 950 955 960  
Pro His Lys Tyr Asp Ser Ile Thr Gly Lys Pro Phe Gln Val Asp Lys  
965 970 975  
Asp Gly Lys Ala Val Val Asp Asp Lys Ser Gly Gly Val Glu Tyr Phe  
980 985 990  
Thr Val Gly Thr Gly Ala Gln Pro Ile Pro Lys Glu Asp Asn Ser Arg  
995 1000 1005  
Leu Pro Gln Pro Thr Gly Lys Leu Val Phe  
1010 1015

<210> 5593

<211> 279

<212> PRT

<213> B.fragilis

<400> 5593

Lys Leu Pro Ala Ile Cys Ile Lys Lys Lys Arg Ile Met Lys Ile Arg  
1 5 10 15  
Phe Ile Ser Leu Ala Ser Gly Ser Ser Gly Asn Cys Tyr Tyr Leu Gly  
20 25 30  
Thr Glu Lys Tyr Gly Ile Leu Ile Asp Ala Gly Ile Gly Ile Arg Thr  
35 40 45  
Ile Lys Lys Ser Leu Lys Asp Ile Asn Val Thr Met Asp Ser Ile Arg  
50 55 60  
Ala Val Phe Ile Thr His Asp His Ala Asp His Ile Lys Ala Val Gly  
65 70 75 80  
His Leu Gly Glu Lys Leu Asn Ile Pro Val Tyr Thr Thr Ala Arg Val  
85 90 95  
His Ala Gly Ile Asn Lys Ser Tyr Cys Met Thr Glu Lys Leu His Gly  
100 105 110  
Ser Val Arg Tyr Leu Glu Lys Glu Glu Pro Met Gln Leu Glu Asp Phe  
115 120 125  
Arg Ile Glu Ser Phe Glu Val Pro His Asp Gly Thr Asp Asn Val Gly  
130 135 140  
Tyr Cys Ile Glu Ile Asp Gly Lys Val Phe Ser Phe Leu Thr Asp Leu  
145 150 155 160  
Gly Glu Ile Thr Pro Thr Ala Ala Arg Tyr Ile Cys Lys Ala His Tyr  
165 170 175  
Leu Ile Ile Glu Ala Asn Tyr Asp Glu Glu Met Leu Arg Met Gly Pro  
180 185 190  
Tyr Pro Thr Tyr Leu Lys Glu Arg Ile Ser Ser Lys Thr Gly His Met  
195 200 205  
Ser Asn Ile Asp Thr Ala Asn Phe Leu Ala Glu Asn Ile Met Glu His  
210 215 220

Leu Arg Tyr Ile Trp Leu Cys His Leu Ser Lys Asp Asn Asn His Pro  
 225 230 235 240  
 Glu Leu Ala Tyr Lys Thr Val Glu Trp Lys Leu Lys Ser Lys Gly Ile  
 245 250 255  
 Ile Val Gly Lys Asp Val Gln Leu Leu Ala Leu Lys Arg Asn Thr Pro  
 260 265 270  
 Ser Glu Leu Tyr Glu Phe Glu  
 275

<210> 5594  
 <211> 113  
 <212> PRT  
 <213> B.fragilis

<400> 5594  
 Cys Lys Glu Ala Tyr Gln Cys Lys Ile Ile Glu Ala Gly Phe Asp Ser  
 1 5 10 15  
 Arg Lys Pro Thr Leu Ile Leu Ile Ile Met Lys Thr Val His Ser Ser  
 20 25 30  
 Pro Ser Leu Ser Pro Ser Gly Thr Lys Arg Gln Lys Ala Asn Leu Phe  
 35 40 45  
 Thr Asn Glu Asn Pro Glu Thr Ile Ala Gln Met Arg Met Gln Ser Ala  
 50 55 60  
 Gln Lys Glu Gln His Lys Val Met Val Arg Leu Asp Asn Arg Thr His  
 65 70 75 80  
 Val Leu Val Ala Pro Gln Asn Val Thr Pro Glu Tyr Ile Glu Met Leu  
 85 90 95  
 Arg Lys Lys Tyr Gln Ile Thr Tyr Asn Ala Pro Ala Arg Gly Gly Arg  
 100 105 110  
 Arg

<210> 5595  
 <211> 73  
 <212> PRT  
 <213> B.fragilis

<400> 5595  
 Ile Arg His Phe Val His Val Leu Thr Glu Val Thr Ile Val Ile Ala  
 1 5 10 15  
 Met Arg Asp Ile Pro Met Asn Leu Lys Met Met Lys Arg Cys Lys Lys  
 20 25 30  
 Leu Phe Leu Ile Phe Ile Arg Thr Glu Ile Ala Gly Tyr Asp Tyr Lys  
 35 40 45  
 Gln Asp Gln Lys Gly Ser Asn Met Lys Leu Arg Lys Lys Glu Leu Lys  
 50 55 60  
 Tyr Gly Ile Arg Asn Tyr Lys Asn Arg  
 65 70

<210> 5596  
 <211> 359  
 <212> PRT  
 <213> B.fragilis

<400> 5596  
 Ser Val Asn Phe Ala His Met Ile Glu Leu Ala Gln His Ile Glu Val  
 1 5 10 15  
 Leu Leu Leu Glu Asn Asp Cys Val Ile Val Pro Gly Phe Gly Gly Phe  
 20 25 30

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<210> 5597
<211> 674
<212> PRT
<213> B.fragilis
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Tyr	Ile	Leu	Phe	Met	Glu	Lys	Thr	Leu	Asn	Leu	Ile	Lys	Asn	Asp	Pro
1				5					10					15	
Trp	Leu	Glu	Pro	Tyr	Lys	Asp	Ala	Ile	Val	Gly	Arg	Phe	Glu	His	Ala
			20					25					30		
Met	Asp	Lys	Lys	Ala	Glu	Leu	Thr	Asn	Gly	Gly	Lys	Ser	Thr	Leu	Ser
		35					40					45			
Asp	Phe	Ala	Ser	Gly	Tyr	Leu	Tyr	Phe	Gly	Leu	His	His	Thr	Asp	Lys
	50					55					60				
Gly	Trp	Ile	Phe	Arg	Glu	Trp	Ala	Pro	Asn	Ala	Ser	His	Ile	Tyr	Met
65					70					75					80

Val	Gly	Thr	Phe	Ser	Asn	Trp	Glu	Glu	Lys	Pro	Ala	Tyr	Lys	Leu	Lys
				85					90					95	
Arg	Leu	Lys	Asn	Gly	Ser	Trp	Glu	Ile	Lys	Leu	Pro	Ile	Asp	Ala	Ile
			100					105					110		
Gln	His	Gly	Asp	Leu	Tyr	Lys	Leu	His	Val	Tyr	Trp	Glu	Gly	Gly	Gln
		115					120					125			
Gly	Glu	Arg	Ile	Pro	Ala	Trp	Ala	Asn	Arg	Val	Val	Gln	Asp	Asp	Asn
	130					135				140					
Thr	Lys	Ile	Phe	Ser	Ala	Gln	Val	Trp	Ala	Pro	Glu	Lys	Pro	Phe	Lys
145				150					155					160	
Phe	Lys	Lys	Lys	Thr	Phe	Lys	Pro	Ser	Thr	Asp	Pro	Leu	Leu	Ile	Tyr
				165					170					175	
Glu	Cys	His	Ile	Gly	Met	Ala	Gln	Gln	Glu	Glu	Lys	Val	Gly	Thr	Tyr
			180					185					190		
Asn	Glu	Phe	Arg	Glu	Lys	Ile	Leu	Pro	Arg	Ile	Ala	Lys	Glu	Gly	Tyr
		195					200					205			
Asn	Cys	Ile	Gln	Ile	Met	Ala	Ile	Gln	Glu	His	Pro	Tyr	Tyr	Gly	Ser
	210					215					220				
Phe	Gly	Tyr	His	Val	Ser	Ser	Phe	Phe	Ala	Ala	Ser	Ser	Arg	Phe	Gly
225				230					235					240	
Thr	Pro	Glu	Glu	Leu	Lys	Gln	Leu	Ile	Asp	Thr	Ala	His	Gly	Leu	Gly
				245					250					255	
Ile	Ala	Val	Ile	Met	Asp	Ile	Val	His	Ser	His	Ala	Val	Lys	Asn	Glu
			260					265					270		
Val	Glu	Gly	Leu	Gly	Asn	Phe	Ala	Gly	Asp	Pro	Asn	Gln	Tyr	Phe	Tyr
		275					280					285			
Pro	Gly	Gly	Arg	Arg	Glu	His	Pro	Ala	Trp	Asp	Ser	Leu	Cys	Phe	Asp
	290				295					300					
Tyr	Gly	Lys	Asn	Glu	Val	Met	His	Phe	Leu	Leu	Ser	Asn	Cys	Lys	Tyr
305				310					315					320	
Trp	Leu	Glu	Glu	Tyr	His	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Val	Thr
				325					330					335	
Ser	Met	Leu	Tyr	Tyr	Ser	His	Gly	Leu	Gly	Glu	Ala	Phe	Cys	Asn	Tyr
			340					345					350		
Gly	Asp	Tyr	Phe	Asn	Gly	His	Gln	Asp	Asp	Asn	Ala	Ile	Cys	Tyr	Leu
		355					360					365			
Thr	Leu	Ala	Asn	Glu	Leu	Ile	His	Glu	Val	Asn	Pro	Lys	Ala	Ile	Thr
	370					375					380				
Ile	Ala	Glu	Glu	Val	Ser	Gly	Met	Pro	Gly	Leu	Ala	Ala	Lys	Val	Glu
385				390					395					400	
Asp	Gly	Gly	Tyr	Gly	Phe	Asp	Tyr	Arg	Met	Ala	Met	Asn	Ile	Pro	Asp
				405					410					415	
Tyr	Trp	Ile	Lys	Thr	Ile	Lys	Glu	Lys	Ile	Asp	Glu	Asp	Trp	Lys	Pro
			420					425				430			
Ser	Ser	Met	Phe	Tr											



545		550		555		560
Met Leu Lys Val	Ile Lys Ser Val Lys Asn Ile Gln Gln Thr Pro Val					
	565		570		575	
Gln Glu Ile Trp	His Asn Asp Gly Asp Gln Val Leu Ala Tyr Gln Arg					
	580		585		590	
Lys Asp Leu Val	Phe Val Phe Asn Phe Asn Pro Ser Gln Ser Phe Thr					
	595		600		605	
Asp Tyr Gly Phe	Leu Val Thr Pro Gly Thr Tyr Glu Val Val Leu Asn					
	610		615		620	
Thr Asp Asn Ile	Ile Tyr Gly Gly Asn Gly Leu Ser Asp Asp Ser Val					
	625		630		635	
Lys His Phe Thr	Leu Pro Asp Pro Leu Tyr Lys Lys Glu Lys Lys Glu					
	645		650		655	
Trp Leu Lys Leu	Tyr Ile Pro Ala Arg Thr Ala Met Val Leu Arg Arg					
	660		665		670	
Thr Lys						

<210> 5598  
 <211> 381  
 <212> PRT  
 <213> B.fragilis

<400> 5598

Arg Met Asn Leu	Tyr Leu Lys His Thr Leu Phe Tyr Leu Leu Gly Ile	
1	5	10 15
Ser Tyr Ala Leu	Ile Ser Ser Ala Gln Ser Asn Pro Asp Lys Leu Gln	
	20	25 30
Cys Lys Val Thr	Gly Arg Met Leu Leu Asp Gly Gly Val Tyr Leu Lys	
	35	40 45
Asn Asp Asn Asn	Phe Gly Asn Gly Val Glu Phe Ser Asp Leu Arg Ile	
	50	55 60
Gly Ala Lys Val	Ala Tyr Gln Asn Trp Asp Met Lys Leu Glu Ile Gly	
	65	70 75 80
Tyr Thr Gly Asn	Lys Ala Thr Ile Lys Asp Ala Phe Ala Lys Tyr Thr	
	85	90 95
Tyr Lys Asn His	Ser Ile Gln Val Gly Gln Phe Tyr Glu Pro Phe Ser	
	100	105 110
Leu Glu Met Met	Cys Ser Thr Phe Asp Ile Arg Phe Asn Gln Ser Pro	
	115	120 125
Gly Ala Val Leu	Ala Leu Thr Asn Gly Arg Arg Met Gly Ile Thr Tyr	
	130	135 140
Gly Tyr Arg Asn	Lys Arg His Tyr Met Ser Gly Gly Ala Phe Met Asp	
	145	150 155 160
Asn Glu Val Asn	Asn Leu Lys Lys Ala Ser His Gly Tyr Ala Leu Asp	
	165	170 175
Gly Arg Val Val	Tyr Arg Pro Val Leu Asp Ser Lys Lys Leu Ile His	
	180	185 190
Ile Gly Phe Ala	Ala Asn Tyr Arg Thr Pro Asn Glu Ser Leu Asn Glu	
	195	200 205
Glu Asp Lys Asn	Ile Phe Ile Tyr Lys Ser Pro Gly Val Ser Thr Ile	
	210	215 220
Asp Asn Arg Asn	Ile Ala Met Ala Thr Ile Asp His Val Ala Tyr Gln	
	225	230 235 240
Ile Lys Phe Gly	Thr Glu Leu Leu Val Tyr Tyr His Arg Phe Cys Leu	
	245	250 255
Gln Ser Glu Tyr	Ile Arg Thr His Val Glu Arg Asp Asn Ala Phe Lys	
	260	265 270
Asn Tyr Val Ala	Gln Gly Ala Tyr Leu Gln Cys Ser Trp Leu Leu Ser	

2377

275	280	285
Gly Glu Thr Tyr Leu Tyr Asp Glu Ser Val Ala Cys Ala Gly Arg Pro		
290	295	300
Glu Gly Lys Ser Leu Glu Val Cys Ser Arg Phe Asn Tyr Leu Thr Leu		
305	310	315
Asn Asp Glu Asp Ala Ser Ile Trp Gly Gly Glu Gln Lys Asp Ile Ser		
	325	330
Ile Gly Leu Asn Tyr Tyr Ile Asn Lys Tyr Ile Gly Ile Lys Leu Asn		
	340	345
Tyr Ser Tyr Leu Met Pro Gly Ala Ser Ile Lys Glu Ile Ser Arg Lys		
	355	360
Asn Phe Ser Val Phe Gln Gly Arg Phe Gln Phe Ile Phe		
370	375	380

<210> 5599  
 <211> 171  
 <212> PRT  
 <213> B.fragilis

<400> 5599
Arg Gln Asn Tyr Arg Gln Asn Lys Val Lys Arg Phe Gln Asp Asn Phe
1 5 10 15
Pro Leu Ala Leu Cys Pro Gly Ser Ile Glu Pro Phe Met His Lys Gly
20 25 30
Asp Trp Ala Ile His Glu Val Leu Pro Ser Leu Leu Ser Glu Ile Gly
35 40 45
Pro Ala Asp Ile Arg Ile Ala Thr Phe Ser Ile Ser Glu Asp Ser Leu
50 55 60
Arg Pro Leu Phe Phe Leu Ala Asp Asp Lys Lys Ile Thr Gly Leu Thr
65 70 75 80
Leu Leu Leu Asp Thr Thr Val Lys Arg His Lys Leu Asp Leu Leu Leu
85 90 95
Phe Ala Ser Asn Ile Thr Pro Arg Ile Arg Ile Asp Ser Cys His Ala
100 105 110
Lys Val Leu Leu Val Glu Asn Asp Lys Tyr Gln Phe Gly Ile Ala Gly
115 120 125
Ser Ala Asn Leu Asn Gln Asn His Arg Trp Glu Asn Gly Phe Tyr Phe
130 135 140
Thr Ser Gly Lys His Phe Asn Tyr Phe Leu Glu Met Phe Glu Gln Ala
145 150 155 160
Tyr Asn Gln Ala Ile Ser Tyr Glu Ile Leu Glu
165 170

<210> 5600  
 <211> 193  
 <212> PRT  
 <213> B.fragilis

<400> 5600
Glu Ile Asp Tyr Tyr Trp Gly Gln Leu Ile Ser Pro Gly Pro Gln Ala
1 5 10 15
Asn Asp Met Arg Ile Gln Phe Glu Ile Lys Glu Lys Leu Pro Asp Ile
20 25 30
Ile Gly Glu Ile Leu Asn Ser Glu Lys Trp Met Thr Leu Ile Lys Glu
35 40 45
Asp Ile Ser Gly Arg Lys Leu Val Val Ile Arg Asp Gln Ala Phe Asp
50 55 60
Ser Glu Ala Thr Val Glu Ile Tyr Ser Arg Glu Val Thr Ile Lys Thr
65 70 75 80

Ala Trp Ser Arg Tyr Thr Tyr Arg Leu Phe Val Leu Gly Asp Cys Val  
85 90 95  
Trp Cys Glu Tyr Asn Gly Ala Tyr Arg Gly Leu Leu Glu Gln Lys Leu  
100 105 110  
Leu Pro Ser Ile Thr Pro Lys Glu Ser Leu Leu Asp Ser Glu Val Leu  
115 120 125  
Asp Ser Ser Leu Tyr Gly His Glu Lys Lys Lys Leu Arg Glu Tyr Ala  
130 135 140  
Glu Asp Asn Leu Lys Leu Lys Lys Phe Arg Arg Glu Asn Phe Asn Glu  
145 150 155 160  
Asn Arg Thr Gly Val Ala Pro Phe Asp His Pro Lys Lys Val Tyr Asp  
165 170 175  
Glu Phe Ile Lys Glu Asp Tyr Ile Ala Pro Ser Ser Lys Glu Asn Asn  
180 185 190  
Lys

&lt;210&gt; 5601

&lt;211&gt; 408

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5601

Gly Ile Asp Tyr Met Val Gln Ser Gln Thr Gln Pro Ile Arg Arg Ile  
1 5 10 15  
Ala Phe Pro Ile Leu Ile Ala Leu Ser Val Ser His Cys Leu Asn Asp  
20 25 30  
Leu Leu Gln Ser Val Ile Ser Ala Val Tyr Pro Leu Phe Lys Glu Asp  
35 40 45  
Leu Ser Leu Ser Phe Ala Gln Ile Gly Leu Ile Thr Leu Val Tyr Gln  
50 55 60  
Met Ser Ala Ser Val Phe Gln Pro Leu Thr Gly Leu Ile Phe Asp Lys  
65 70 75 80  
Arg Pro Ile Ala Trp Ser Leu Pro Ile Gly Met Ser Phe Thr Leu Ile  
85 90 95  
Gly Met Leu Asn Leu Ala Phe Ala Ser Asn Leu Asn Trp Leu Leu Ala  
100 105 110  
Ser Val Phe Ile Ile Gly Ile Gly Ser Ser Val Leu His Pro Glu Ala  
115 120 125  
Ser Arg Ile Thr Phe Leu Ala Ser Gly Gly Lys Arg Gly Leu Ala Gln  
130 135 140  
Ser Leu Phe Gln Val Gly Gly Asn Leu Gly Gly Ser Leu Gly Pro Leu  
145 150 155 160  
Leu Val Ala Leu Leu Val Ala Pro Tyr Gly Arg His His Ile Ala Leu  
165 170 175  
Phe Ala Ile Leu Ala Leu Ala Ala Ile Cys Val Met Phe Pro Ile Cys  
180 185 190  
Arg Trp Tyr Arg Ser Tyr Leu Asn His Leu Lys Lys Arg Pro Ile His  
195 200 205  
Ala Lys Ala Tyr Ile Glu Arg Pro Leu Pro Pro Gln Lys Thr Val Phe  
210 215 220  
Ala Ile Thr Ile Leu Met Ile Leu Ile Phe Ser Lys Tyr Ile Tyr Met  
225 230 235 240  
Ala Ser Leu Asn Ser Tyr Tyr Thr Phe Tyr Leu Ile His Lys Phe Asn  
245 250 255  
Val Ser Ile Gln Gln Ser Gln Leu Phe Leu Phe Val Phe Leu Val Ala  
260 265 270  
Thr Ala Ile Gly Thr Leu Met Gly Gly Pro Ile Gly Asp Lys Ile Gly  
275 280 285

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Arg Lys Tyr Val Ile Trp Gly Ser Ile Leu Gly Thr Ala Pro Phe Ser
 290                295                300
Leu Leu Met Pro His Ala Gly Leu Val Trp Thr Ile Ile Leu Ser Phe
305                310                315                320
Cys Val Gly Leu Met Leu Ser Ser Ala Phe Pro Ala Ile Leu Leu Tyr
                325                330                335
Ala Gln Glu Leu Leu Pro Asn Lys Leu Gly Leu Ile Ser Gly Leu Phe
                340                345                350
Phe Gly Phe Ala Phe Gly Val Ala Gly Ile Ala Ser Ala Val Leu Gly
                355                360                365
Asn Met Ala Asp Lys Phe Gly Ile Asp Ala Val Tyr Asn Val Cys Ala
                370                375                380
Phe Met Pro Leu Leu Gly Leu Val Thr Trp Phe Leu Pro Asp Leu Lys
385                390                395                400
Lys Val Arg Ser Glu Lys Gln Glu
                405

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<210> 5602

<211> 64

<212> PRT

<213> B.fragilis

<400> 5602

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Asp Thr Ile Leu Tyr Gly Arg Asp Gly Thr Ser Lys Gly Glu Leu Leu
 1                5                10                15
Ile Asp Ile Lys Leu Cys Asn Met Val Lys Glu Phe Thr Pro Asp Met
                20                25                30
Ala Asn Ser Met Gln Lys Ile Val Arg Lys Cys Phe Pro Arg Thr Leu
                35                40                45
Gln Ile Val Asn Lys Ile His Val Phe Thr Leu Val Tyr Glu Ala Met
 50                55                60

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<210> 5603

<211> 827

<212> PRT

<213> B.fragilis

<400> 5603

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Thr Asn Leu Tyr Glu Met Lys Lys Glu Arg Tyr Leu Arg Glu Met Asp
 1                5                10                15
Asp Gln Asn Asp Asn Ala Phe Ser Leu Ile Ala Asp Phe Asp Gly Asn
                20                25                30
Glu Asp Gln Val Phe Asp Ile Lys Val Gly Glu Thr Leu Pro Val Leu
                35                40                45
Pro Leu Arg Asn Met Val Leu Phe Pro Gly Val Phe Met Pro Val Ser
 50                55                60
Val Gly Arg Lys Ser Ser Leu Arg Leu Val Arg Glu Ala Asp Lys Lys
65                70                75                80
Lys Ser Tyr Ile Ala Val Val Cys Gln Lys Met Ala Glu Thr Asp Glu
                85                90                95
Pro Ala Phe Glu Asp Leu His Pro Ile Gly Thr Ile Gly Lys Ile Val
                100                105                110
Arg Val Leu Glu Met Pro Asp Gln Thr Thr Thr Val Ile Gln Gly
                115                120                125
Met Lys Arg Leu Glu Leu Lys Asn Ile Thr Glu Thr His Pro Tyr Leu
 130                135                140
Lys Gly Glu Val Asn Ile Val Glu Glu Glu Ile Pro Ser Lys Asp Asp
145                150                155                160
Lys Glu Phe Gln Ala Leu Val Glu Thr Cys Lys Asp Leu Thr Ile Arg

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Ala Val Gly Gly Glu Ile Leu Phe Val Glu Thr Ser Leu Ser Arg Gly  
645 650 655  
Lys Gly Gly Arg Leu Thr Leu Thr Gly Asn Leu Gly Glu Val Met Lys  
660 665 670  
Glu Ser Ala Met Leu Ala Leu Glu Tyr Ile Lys Ala His Ala Ser Leu  
675 680 685  
Leu Asn Leu Asp Glu Glu Ile Phe Asp Asn Trp Asn Ile His Val His  
690 695 700  
Val Pro Glu Gly Ala Ile Pro Lys Asp Gly Pro Ser Ala Gly Ile Thr  
705 710 715 720  
Met Ala Thr Ser Leu Ala Ser Ala Leu Thr Gln Arg Lys Val Lys Ala  
725 730 735  
Asn Leu Ala Met Thr Gly Glu Ile Thr Leu Arg Gly Lys Val Leu Pro  
740 745 750  
Val Gly Gly Ile Lys Glu Lys Ile Leu Ala Ala Lys Arg Ala Gly Ile  
755 760 765  
Lys Glu Ile Ile Met Ser Ala Glu Asn Lys Lys Asn Ile Asp Glu Ile  
770 775 780  
Gln Asp Ile Tyr Leu Lys Gly Leu Thr Phe His Tyr Val Asn Asp Val  
785 790 795 800  
Lys Glu Val Phe Ala Ile Ala Leu Thr Gln Glu Lys Val Ala Asp Ala  
805 810 815  
Ile Asp Leu Ser Val Lys Lys Ala Ser Gln Glu  
820 825

<210> 5604  
<211> 65  
<212> PRT  
<213> B.fragilis

<400> 5604  
Gln Ile Ile Tyr Ile Thr Leu Asn Ile Gly Cys Arg Leu Phe Leu Leu  
1 5 10 15  
Ser Lys Asp Glu Lys Gln Ser Leu Asn Ile Glu Leu Ser Arg Glu Glu  
20 25 30  
Ile Glu Tyr Phe Phe Lys Pro Tyr Pro Ala Asp Glu Thr Glu Ala Tyr  
35 40 45  
Glu Ile Cys Asn Asp Phe Ile Lys Lys Ile Ser Thr Asp Lys Ser Ile  
50 55 60  
Leu  
65

<210> 5605  
<211> 70  
<212> PRT  
<213> B.fragilis

<400> 5605  
Tyr Ile Ile Tyr Tyr Gln Arg Phe Ile Leu Leu Trp Glu Gln Gly Val  
1 5 10 15  
Val Gly Ser Asn Pro Ala Thr Pro Thr Gly Asn Lys Ser Asn His Thr  
20 25 30  
Cys Gln Cys Gly Tyr Ser Tyr Phe Ile Leu Cys Tyr Gly Gly Ile Pro  
35 40 45  
Ile Ile Arg Asn Asp Ala Thr Gly Thr Glu Arg Arg Leu Leu His Phe  
50 55 60  
Gln Ile Lys Leu Pro Gly  
65 70

<210> 5606  
 <211> 231  
 <212> PRT  
 <213> B.fragilis

<400> 5606

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Lys Tyr Asp Phe Thr Ile Lys Arg Gly Lys Lys Ile Trp Lys Glu Ser
1      5      10      15
Leu Asp Gly Ile Ser Gln Ile Asp Ala Phe Pro Val Leu Lys Ala Arg
      20      25      30
Leu Gly Lys Ser Leu Pro Gln Phe Val Tyr Thr Leu Ser Pro Asp Lys
      35      40      45
Gln Thr Ala Thr Leu Gln Ile Met Asn Leu Tyr Gln Leu Pro Gln Leu
      50      55      60
Lys Gln Phe Cys Asp Ser Val Phe Ser Val Ile Asn Arg Glu His Val
65      70      75      80
Pro Asn Leu Val Ile Asp Val Arg Asn Asn Lys Gly Gly Ser Ser Ala
      85      90      95
Gly Val Asp Met Leu Leu Ser Tyr Leu Ser His Asp Ala Tyr Thr Leu
      100     105     110
Tyr Ile Lys Thr Asp Leu Lys Ile Ser Ser Tyr Ser Lys Arg Tyr Asn
      115     120     125
Glu Gln Lys His Pro Glu Thr Tyr Glu Glu Ile Lys Asn Leu Pro Asp
      130     135     140
Gly Ser Leu Phe Ala Ile Arg Asp Ser Phe Val Glu Gly Asn Arg Asp
145      150     155     160
Lys Ala Asp Ile Tyr Lys Gly Ser Val Thr Val Leu Val Asn Glu Ser
      165     170     175
Thr Tyr Ser Gly Ala Ser Thr Phe Ala Ser Ala Ile Lys Lys Ser His
      180     185     190
Ala Gly Lys Val Leu Gly Glu Thr Gly Cys Pro Thr Val Tyr Phe Gly
      195     200     205
Asn Tyr Met Ser Phe Thr Leu Pro Asn Ser Arg Leu Glu Tyr Tyr Ile
      210     215     220
Ser Leu Asn Lys Phe Tyr Glu
225      230

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<210> 5607  
 <211> 183  
 <212> PRT  
 <213> B.fragilis

<400> 5607

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Leu Asn Lys Tyr Phe Ile Met Lys Arg Ile Leu Cys Pro Lys Cys Glu
1      5      10      15
Asn Tyr Leu Ser Phe Asp Glu Thr Lys Tyr Ser Glu Gly Gln Ser Leu
      20      25      30
Val Phe Val Cys Glu His Cys Gly Lys Gln Phe Ser Ile Arg Leu Gly
      35      40      45
Lys Ser Lys Met Lys Ala Pro Arg Lys Glu Glu Lys Leu Asp Glu Asp
      50      55      60
Val Tyr Lys Glu Glu Phe Gly Cys Ile Val Val Ile Glu Asn Val Phe
65      70      75      80
Gly Phe Lys Gln Val Leu Pro Leu Gln Glu Gly Asp Asn Ile Ile Gly
      85      90      95
Arg Arg Cys Val Gly Thr Asp Ile Asn Thr Pro Ile Glu Thr Gly Asp
      100     105     110
Met Ser Met Asp Arg Arg His Cys Ile Ile Asn Val Lys Arg Asn Arg
      115     120     125

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Gln Gly Lys Leu Val Tyr Thr Leu Arg Asp Ala Pro Ser Leu Thr Gly  
 130 135 140  
 Thr Phe Leu Met Asn Glu Ile Leu Gly Asp Lys Asp Arg Ile Arg Ile  
 145 150 155 160  
 Asp Asp Gly Ala Ile Ile Thr Ile Gly Ala Thr Thr Leu Ile Leu Arg  
 165 170 175  
 Ala Ala Lys Lys Glu Glu Ile  
 180

<210> 5608  
 <211> 69  
 <212> PRT  
 <213> B.fragilis

<400> 5608  
 Glu Arg Arg Tyr Glu Met Gly Arg Ile Lys Glu Glu Ala Trp Val Glu  
 1 5 10 15  
 Lys Cys Thr Val Leu His Glu Gly Lys Ala Thr Pro Asn Ile Tyr Tyr  
 20 25 30  
 Asn Val Phe Ala Asp Gly Glu Gln Leu Cys Glu Ile Ser Tyr Asp Arg  
 35 40 45  
 Leu Ile Ala Ile Arg Asn Leu Ile Asn Gln Ile Glu Lys Glu Lys Lys  
 50 55 60  
 Gly Glu Cys His Glu  
 65

<210> 5609  
 <211> 170  
 <212> PRT  
 <213> B.fragilis

<400> 5609  
 Pro Asn His Leu Met Asp Ile Ile Asp Arg Ile Lys Gln Tyr Leu Asn  
 1 5 10 15  
 His Lys Gly Ile Ser Asp Tyr Arg Phe Glu Lys Thr Leu Ser Leu Ser  
 20 25 30  
 Lys Gly Tyr Ile Asn Lys Ala Lys Asn Pro Thr Ala Asp Ile Leu Met  
 35 40 45  
 Lys Met Cys Gly Ile Tyr Thr Asp Ile Ser Thr Glu Trp Leu Leu Arg  
 50 55 60  
 Gly Glu Gly Glu Met Leu Arg Glu Lys Arg Glu Asp Leu Gly Leu His  
 65 70 75 80  
 Arg Ala Glu Ser Ala Ser Thr Asp Glu Asn Ser Leu Ile Tyr Lys Met  
 85 90 95  
 Tyr Lys Glu Lys Asp Asp Glu Asn Lys Thr Leu Ile Lys Gln Asn Ala  
 100 105 110  
 Val Leu Glu Glu Arg Ile Arg Gln Leu Glu Ala Asp Asn Glu Ser Leu  
 115 120 125  
 Arg Ser Gln Ser Gly Ala Asp Arg Ile Thr Asp Thr Phe Ser Asp Leu  
 130 135 140  
 Pro Leu Val Asp Tyr Glu Asp Tyr Pro Pro Val Glu Arg Pro Ser  
 145 150 155 160  
 Ser Ser Lys His Pro Leu Ala Gly Lys Ala  
 165 170

<210> 5610  
 <211> 192  
 <212> PRT  
 <213> B.fragilis



&lt;400&gt; 5610

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Ile Ser Phe His Met Ile Asp Asn Asn Ile Phe Ser Cys Gly Pro Leu
1           5           10           15
Pro Ser Asn Asp Gly Tyr Thr Trp Thr Ile Val Ser Arg Leu Gly Asp
           20           25           30
Met Leu Asn Glu Ala Glu Ala Leu Phe Gly Glu Arg Asp Lys Arg Tyr
           35           40           45
Thr Ile Leu Gly Ile Glu Leu Ala Asn Ile Lys Gln Pro Gln Ile Trp
           50           55           60
Tyr Pro Asn Asp Cys Asn His Val Ile Ile Gln Val Thr Glu Asp Cys
65           70           75           80
Ser Asn Asn Met Glu Arg Ala Ile Phe Gln Val Ala His Glu Ala Ile
           85           90           95
His Cys Leu Cys Pro Asn Pro Lys Lys Lys Thr Thr Ile Leu Glu Glu
           100          105          110
Gly Leu Ala Thr Tyr Phe Ser Met Tyr Tyr Thr Arg Lys Arg Lys Ile
           115          120          125
Tyr Tyr Asn Ile Asp Asn Leu Gln Tyr Gln Lys Pro Tyr Glu Phe Cys
           130          135          140
Ser Lys Leu Leu Asn Tyr Asp Ser Glu Leu Ile Lys Lys Ala Arg Ile
145          150          155          160
Ile Glu Pro Asp Ile Ser Phe Ile Asn Lys Glu Ile Leu Leu Asn Ile
           165          170          175
Cys Pro Lys Ile Asp His Thr Leu Leu Asp Glu Leu Thr Lys Lys Phe
           180          185          190

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&lt;210&gt; 5611

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5611

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Leu Ile Phe His Leu Val Pro Val Tyr Ala Tyr Lys Val His Leu Leu
1           5           10           15
His Ser Asp Leu Tyr Phe Cys Lys Cys Asn Arg Tyr Tyr Pro Asn Glu
           20           25           30
Gln Ser Val Lys Asn Val Leu Gly Val Phe Asp Lys Val Cys Ile Gly
           35           40           45
Ser Leu Leu Ser Ile Asp Tyr Arg Leu Leu Tyr Thr Leu Ser Phe Leu
           50           55           60
His Ser Leu Leu Val Ala Gly Phe Pro Ile Asp Leu Met Ala Val Arg
65           70           75           80
Leu Ala Lys Lys Gln His Ala Ser Gly Ser Phe Ala Leu Cys Asp Asn
           85           90           95
Pro Asn Tyr Thr Leu Leu Leu Ser Leu Tyr Val Ser Phe Gln
           100          105          110

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&lt;210&gt; 5612

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5612

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Ser Lys His His Ile Cys Asn Met Asn Asp Asp Lys Thr Ile Thr Ala
1           5           10           15
Ala Ile Glu Thr Ser Asn Val Thr Ala Leu Leu Ala Ala Tyr Arg Lys
           20           25           30
Phe Thr Ser Ser Ser Gly Ala Thr Thr Asp Glu Phe Phe Arg Phe Ile

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35 40 45  
 Thr Thr Pro Thr Pro Glu Arg Glu Glu Phe Leu Ala Leu Tyr Cys Ser  
 50 55 60  
 Ser Thr Ser Ser Val Ser Gly Thr Ile Ile Gln Thr Asn Tyr Asn Ala  
 65 70 75 80  
 Leu

<210> 5613  
 <211> 106  
 <212> PRT  
 <213> B.fragilis

<400> 5613  
 Ser Ser Asn Gln Leu Arg Asn Ile Arg Ile Glu Met Glu Leu Ser Asp  
 1 5 10 15  
 Glu Thr Leu Gln Gln Ile Arg Glu Met Ala Ala Ala Leu Leu Pro Pro  
 20 25 30  
 Ala Glu Ile Ala Ile Leu Ile Ser Leu Pro Ala Gly Glu Arg Ser Tyr  
 35 40 45  
 Phe Cys Asp Ile Cys Arg Asn His His His Ser Pro Ile Tyr Glu Ala  
 50 55 60  
 Tyr His Gln Gly Arg Leu Gln Thr Lys Phe Glu Leu Arg Lys Thr Val  
 65 70 75 80  
 Ile Lys Leu Ala Lys Ala Gly Ser Pro Ala Ala Glu Pro Leu Ala Asp  
 85 90 95  
 Lys Tyr Met Lys Glu Gln Ile Ile Asn Asp  
 100 105

<210> 5614  
 <211> 66  
 <212> PRT  
 <213> B.fragilis

<400> 5614  
 Leu His Asp Gln Phe Cys Phe Ile Asp Ser Gly Ser Asn Glu Thr Ile  
 1 5 10 15  
 Tyr Asn Gly Leu Ala Glu Asp Cys Leu Trp Glu Ile Val Leu Phe Ser  
 20 25 30  
 Asn Gly Phe Val Tyr His Ala Leu Gln Lys Phe Arg Ile Phe Ile Glu  
 35 40 45  
 Glu Lys Asp Phe Asn His Thr Val Leu Tyr Asn Ser His Phe His Leu  
 50 55 60  
 Asn Phe  
 65

<210> 5615  
 <211> 374  
 <212> PRT  
 <213> B.fragilis

<400> 5615  
 Lys Glu Cys Gln Gln Asp Tyr Lys Phe Met Arg Ser Asn Arg Phe Ile  
 1 5 10 15  
 Lys Arg Leu Asp Leu Tyr Ile Ile Lys Lys Phe Leu Gly Thr Tyr Val  
 20 25 30  
 Phe Ala Ile Ala Leu Ile Ile Ser Ile Ala Val Val Phe Asp Phe Asn  
 35 40 45  
 Glu Lys Met Asp Lys Phe Met Glu Arg Ser Ala Pro Trp Ser Ala Ile

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      50                      55                      60
Ile Phe Asp Tyr Tyr Met Asn Phe Ile Pro Tyr Phe Ala Asn Leu Phe
65                      70                      75                      80
Ser Pro Leu Phe Val Phe Ile Ala Val Ile Phe Phe Thr Ser Lys Leu
      85                      90                      95
Ala Glu Asn Ser Glu Ile Ile Ala Met Phe Ser Thr Gly Met Ser Phe
      100                      105                      110
Lys Arg Met Leu Arg Pro Tyr Met Ile Ser Ala Gly Ile Ile Ala Ile
      115                      120                      125
Ser Thr Phe Ile Leu Gly Ser Tyr Val Ile Pro Arg Gly Ser Val Thr
      130                      135                      140
Arg Leu Asp Phe Glu Asp Lys Tyr Val Lys Lys Lys Lys Thr Thr Tyr
145                      150                      155                      160
Val His Asn Ile Gln Leu Glu Ile Asp Thr Gly Val Ile Ala Tyr Ile
      165                      170                      175
Asp Asn Tyr Gln Asp Tyr Asn Lys Thr Gly Asn Arg Phe Ser Leu Asp
      180                      185                      190
Lys Phe Val Asp Lys Lys Leu Val Ser His Leu Thr Ala Arg Ser Ile
      195                      200                      205
Thr Tyr Asp Thr Thr Ala Val Asn Lys Trp Thr Ile Lys Asp Tyr Met
      210                      215                      220
Ile Arg Asn Leu Asp Gly Leu Lys Glu Thr Ile Val Arg Gly Asp Lys
225                      230                      235                      240
Met Asp Ser Ile Ile Pro Met Glu Pro Ala Asp Phe Met Ile Met Arg
      245                      250                      255
Asn Gln Gln Glu Met Leu Thr Ser Pro Gln Leu Ser Ala Tyr Ile Asp
      260                      265                      270
Lys Gln Lys Gln Arg Gly Ile Ala Asn Ile Lys Glu Phe Glu Ile Glu
      275                      280                      285
Tyr His Lys Arg Ile Ala Met Ser Phe Ala Ser Phe Ile Leu Thr Val
      290                      295                      300
Ile Gly Val Ser Leu Ser Ser Arg Lys Thr Lys Gly Gly Met Gly Leu
305                      310                      315                      320
His Leu Gly Ile Gly Leu Gly Leu Ser Phe Ser Tyr Ile Leu Phe Gln
      325                      330                      335
Thr Val Ala Ser Thr Phe Ala Val Asn Gly Asn Met Pro Pro Met Ile
      340                      345                      350
Ala Met Trp Ile Pro Asn Leu Leu Tyr Ala Leu Ile Ala Phe Tyr Leu
      355                      360                      365
Tyr Arg Lys Ala Pro Lys
370

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&lt;210&gt; 5616

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5616

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Gly Leu Ser His Leu His Ser Phe Leu Ser Ser Ile Phe Gly Phe Gly
1                      5                      10                      15
Leu Ala Gly Val Leu Leu Thr Lys Tyr Cys Pro Asp Pro Thr Leu Phe
      20                      25                      30
Glu Ser Arg Glu Ala Trp Glu Val Ala Ser Val Asn Ala His Tyr Ile
      35                      40                      45
Trp Tyr Tyr Phe Ala Ala Ile Gly Leu Val Ala Ala Ile Ala Leu Leu
50                      55                      60
Ile Phe Ala Lys Ile Thr Asp Phe Ile Asp Lys Lys Lys Lys Thr Asn
65                      70                      75                      80
Val

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405 410 415  
 Glu Gln Thr Tyr Val Asn Val Asn Ile His Gln Lys Glu Asn Ala Asp  
 420 425 430  
 Lys Leu Lys Ala Leu Ala Gln Leu Pro Asp Ser Cys Ala Ala Ser Ala  
 435 440 445  
 Asp Cys Leu Gln Lys Gln Arg Thr Val Phe Glu Gln Tyr Asn Val Phe  
 450 455 460  
 Ser Pro Ala Met Ile Asp Gly Ile Ile Ser Arg Leu Arg Ser Tyr Asn  
 465 470 475 480  
 Asp Ala Thr Leu Arg Lys Asp Ile Gln Asp Lys Pro Glu Glu Met Leu  
 485 490 495  
 Ala Leu Val Ser Lys Phe Phe His Cys Gly  
 500 505

<210> 5618  
 <211> 189  
 <212> PRT  
 <213> B.fragilis

<400> 5618  
 Asn Met Asp Gln Leu Gln Leu Ile Gln Ser Lys Ile Tyr Glu Ile Arg  
 1 5 10 15  
 Gly Gln Lys Val Met Leu Asp Phe Asp Leu Ala Glu Met Tyr Gly Thr  
 20 25 30  
 Glu Thr Lys Tyr Leu Lys Arg Ser Val Lys Asn Asn Ile Lys Arg Phe  
 35 40 45  
 Pro Ser Asp Phe Met Phe Glu Leu Thr Lys Glu Glu Phe Asp Ser Leu  
 50 55 60  
 Arg Cys Ser Phe Ser Thr Ser Lys Arg Gly Gly Thr Arg Tyr Met Pro  
 65 70 75 80  
 Tyr Ala Phe Thr Glu His Gly Val Ala Gln Leu Ser Ser Val Leu Asn  
 85 90 95  
 Ser Asp Leu Ala Ile Glu Ile Asn Ile Gln Ile Ile Arg Ala Phe Ile  
 100 105 110  
 Ala Val Arg Gln Leu Ile Ser Asn Pro Pro Val Asp Arg Val Asp Lys  
 115 120 125  
 Leu Lys Glu Glu Ile Lys Ala Leu Lys Asp Tyr Ile Glu Glu Ala Phe  
 130 135 140  
 Thr Asp Tyr Asn Asp Ile Asn Asp Asp Thr Arg Met Gln Leu Glu Leu  
 145 150 155 160  
 Ile Asn Gln Thr Leu Ala Glu Leu Gln Ala Lys Lys Lys Ala Glu Glu  
 165 170 175  
 Lys Pro Arg Asn Pro Ile Gly Phe Ile Lys Pro Lys His  
 180 185

<210> 5619  
 <211> 76  
 <212> PRT  
 <213> B.fragilis

<400> 5619  
 Gln Lys Arg His Ser Gly Ile Asp Gln Ile Val Cys Cys His Gln Val  
 1 5 10 15  
 Leu Phe Phe Val Met Asp Lys Thr Ala Glu Gly Tyr Asp Glu Ser Thr  
 20 25 30  
 Ser Gln Tyr Gly Ile Gly Glu His Ile Asp Gly Asp Met Gly Asn Lys  
 35 40 45  
 Pro Asn Thr Leu Gln Ser Arg His Lys Arg Leu Val Met Tyr Leu Arg  
 50 55 60

## 2390

Phe Gln Gln Ile Asp Tyr Tyr Lys Asp Ser Gly Gln  
 65 70 75

<210> 5620  
 <211> 333  
 <212> PRT  
 <213> B.fragilis

<400> 5620

Ile Val Lys Gln Arg Ile Met Gln Phe Tyr Ser Arg Asn Glu Ala Ile  
 1 5 10 15  
 Asn Arg Ile Asn Lys Leu Ala Gly Ala Gly Lys Ala Phe Leu Phe Ile  
 20 25 30  
 Ile Asp Tyr Lys Gln Glu Cys Ser Phe Ile Glu Lys Val Asp Asp Ile  
 35 40 45  
 Asp Ser Ser Glu Leu Leu Tyr Asn Leu Asn Gly Phe Thr Asn Cys Thr  
 50 55 60  
 Ser Val Val Thr Pro Phe Arg Tyr Pro Ile Ile Trp Gln Pro Gln Pro  
 65 70 75 80  
 Ile Ser Leu Ser Gln Tyr Lys Arg Ser Phe Asp Ile Ile Arg Lys Asn  
 85 90 95  
 Ile Leu Ser Gly Asn Ser Phe Leu Thr Asn Leu Thr Cys Met Thr Pro  
 100 105 110  
 Val Asn Thr Asn Leu Gly Leu Lys Asp Ile Phe Tyr His Ser Arg Ala  
 115 120 125  
 Leu Tyr Lys Leu Trp Leu Lys Glu Thr Phe Val Val Phe Ser Pro Glu  
 130 135 140  
 Ile Phe Ile Arg Ile Glu Asn Gly Arg Ile Ser Ser Tyr Pro Met Lys  
 145 150 155 160  
 Gly Thr Ile Asp Ala Thr Leu Pro Ser Ala Thr Arg Leu Leu Met Glu  
 165 170 175  
 Asp Glu Lys Glu Ala Ala Glu His Ala Thr Ile Val Asp Leu Ile Arg  
 180 185 190  
 Asn Asp Leu Ser Ile Val Ala Asp Asn Val Ser Val Thr Arg Tyr Arg  
 195 200 205  
 Tyr Val Asp Thr Leu Tyr Thr Asn His Gly Pro Ile Leu Gln Thr Ser  
 210 215 220  
 Ser Glu Ile Ser Gly Val Leu Pro Lys Asn Tyr Val Asp His Leu Gly  
 225 230 235 240  
 Glu Ile Leu Phe Arg Leu Leu Pro Ala Gly Ser Ile Thr Gly Ala Pro  
 245 250 255  
 Lys Tyr Lys Thr Ile Glu Ile Ile Glu Gln Ala Glu Glu Tyr Glu Arg  
 260 265 270  
 Gly Phe Tyr Thr Gly Ile Thr Gly Tyr Phe Asp Gly Arg Lys Leu Asp  
 275 280 285  
 Ser Ala Val Met Ile Arg Phe Ile Glu Glu Gln Asn Gly Gln Ile Phe  
 290 295 300  
 Phe Lys Ser Gly Gly Gly Ile Thr Cys Lys Ser Asp Leu Glu Asn Glu  
 305 310 315 320  
 Tyr Asn Glu Met Lys Gln Lys Val Tyr Val Pro Ile Tyr  
 325 330

<210> 5621  
 <211> 178  
 <212> PRT  
 <213> B.fragilis

<400> 5621

Thr Met Lys His His Val His Leu Ile Ile Tyr Phe Ala Cys Ile Ser

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1           5           10           15
Val Gly Ile Leu Leu Cys Ala Cys Arg Ser Ser Ser Leu His Ser Asn
20           25           30
Gln Phe Lys Glu Asn Gly Thr Phe Gln His Asn Tyr Asn Glu Leu Asn
35           40           45
Thr Gly Thr Gly Thr Ile Ala Ser Gln Val Lys Thr Thr Lys Asp Glu
50           55           60
His Gly Ser Ser Trp Lys Ile Thr Tyr His Phe Asp Thr Ala Gln Thr
65           70           75           80
Pro Asp Pro Thr Thr Gly Leu Pro Pro Leu Ser Gly Ile Glu Ile Glu
85           90           95
Gly Ser Glu Lys Gln Ser Lys Thr Ala Gln Glu Ser Asn Asp Thr Val
100          105          110
His Ser Ser Asn Ser Ser Ser Lys Arg Glu Val Ser Gly Gln Thr Ile
115          120          125
Gln Arg Glu Ser Gly Thr Glu Thr Lys Lys Asp Ser Lys Val Ala Thr
130          135          140
Gly Thr Asp Asp Gly Ile Arg Asn Gly Leu Ser Ile Gly Ile Pro Leu
145          150          155          160
Leu Phe Ile Ile Ile Ala Leu Ser Tyr Tyr Ala Lys Arg Gln Asn Thr
165          170          175
Ser Lys

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<210> 5622
<211> 275
<212> PRT
<213> B.fragilis

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<400> 5622
Val Ile Leu His Lys Ile Lys Gln Met Ile Lys Tyr Ile Ala Thr Leu
1           5           10           15
Leu Leu Thr Val Leu Phe Val Ala Cys Asn Asn Gly Lys Gly Gln Gln
20           25           30
Pro Ser Glu Glu Asn Glu Asp Pro Lys Ala Lys Glu Ile Leu Gln Gly
35           40           45
Ile Trp Leu Asp Asp Glu Thr Glu Thr Pro Leu Met Arg Ile Ile Gly
50           55           60
Asp Thr Ile Tyr Tyr Ser Asp Ala Gln Ser Ala Pro Val Tyr Phe Lys
65           70           75           80
Ile Leu Lys Asp Thr Leu Tyr Thr Tyr Gly Lys Asp Val Thr His Tyr
85           90           95
Gln Ile Asp Lys Gln Ser Glu Tyr Ser Phe Trp Phe His Ser Leu Ala
100          105          110
Asp Asn Ile Ile Lys Leu His Lys Ser Glu Asp Pro Asn Asp Thr Leu
115          120          125
Ala Phe Ser Phe Lys Ser Val Glu Ile Ile Pro Thr Tyr Thr Glu Val
130          135          140
Thr Lys Lys Asp Ser Val Val Met Phe Asp Gly Val Arg Tyr Arg Ala
145          150          155          160
Tyr Val Tyr Ile Asn Pro Ser Gln Met Lys Val Val Lys Thr Thr Tyr
165          170          175
Ser Glu Asp Gly Ile Ser Met Asp Asn Ile Tyr Tyr Asp Asn Val Met
180          185          190
His Ile Cys Val Tyr Glu Gly Lys Lys Ser Leu Tyr Ala Lys Asp Ile
195          200          205
Thr Lys Gln Met Phe Val Asp Val Ile Pro Thr Asp Phe Leu Gln Gln
210          215          220
Ala Ile Leu Ser Asp Met Asn Phe Thr Gly Ile Asp Arg Lys Gly Tyr

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225                      230                      235                      240  
 His Tyr Gln Ala Leu Val Cys Ile Pro Glu Ser Pro Val Cys Asn Leu  
                                  245                      250                      255  
 Val Asn Leu Thr Ile Ser Phe Asp Gly Lys Leu Asn Ile Thr Ala Ala  
                                  260                      265                      270  
 Lys Tyr Lys  
                                  275

<210> 5623  
 <211> 126  
 <212> PRT  
 <213> B.fragilis

<400> 5623  
 Asn His Phe Asn Thr Leu Asn Tyr Leu Ile Met Gly Leu Asp Ile Ala  
 1                      5                      10                      15  
 Ile Ala Ser Ala Val Val Glu Ile Ile Thr Leu Ile Phe Phe Phe Val  
                                  20                      25                      30  
 Leu Cys Arg Asn Val Ser Lys Ile Lys Lys Glu Ile Val Ser Asn Asp  
                                  35                      40                      45  
 Asn Leu Pro Gly Met Phe Ala Met Tyr Ile Ser Leu Gly Glu Thr Asp  
                                  50                      55                      60  
 Lys Ala Lys Lys Ile Leu Tyr Lys Ala Ile Ser Lys Glu Pro Glu Phe  
 65                      70                      75                      80  
 Ile Ala Ala Phe Cys Tyr Asn Gly Asn Asn Ser Ala Gln Gln Ser Thr  
                                  85                      90                      95  
 Leu Lys Arg Lys Tyr Lys Pro Tyr Leu Glu Ile Leu Gly Leu Glu Leu  
                                  100                      105                      110  
 Asp Phe Glu Leu Val Asn Lys Phe Ile Gln Glu Arg Glu Lys  
                                  115                      120                      125

<210> 5624  
 <211> 470  
 <212> PRT  
 <213> B.fragilis

<400> 5624  
 Val Ile Ile Lys Asn Arg Ile Leu Ile Ile Pro Ala Phe Phe Leu Leu  
 1                      5                      10                      15  
 Pro Lys Arg Arg Arg Lys Gly Lys Ala Pro Lys Ile Leu Asn Lys Met  
                                  20                      25                      30  
 Ala Thr Lys Glu Tyr Phe Pro Gly Ile Gly Lys Ile Lys Phe Glu Gly  
                                  35                      40                      45  
 Lys Asp Ser Lys Asn Pro Met Ala Phe Arg Tyr Tyr Asp Ala Glu Lys  
                                  50                      55                      60  
 Met Ile Asn Gly Arg Ser Met Lys Asp Trp Leu Lys Phe Ala Met Ala  
 65                      70                      75                      80  
 Trp Trp His Thr Leu Cys Ala Glu Gly Gly Asp Gln Phe Gly Gly Gly  
                                  85                      90                      95  
 Thr Lys Gln Phe Pro Trp Asn Gly Asp Pro Asp Pro Val Gln Ala Ala  
                                  100                      105                      110  
 Lys Asn Lys Met Asp Ala Gly Phe Glu Phe Met Gln Lys Met Gly Ile  
                                  115                      120                      125  
 Gly Tyr Tyr Cys Phe His Asp Val Asp Leu Val Thr Glu Ala Asp Ser  
                                  130                      135                      140  
 Ile Glu Ala Tyr Glu Ala Asn Leu Lys Glu Leu Val Ala Tyr Ala Lys  
 145                      150                      155                      160  
 Gln Lys Gln Ala Glu Thr Gly Ile Lys Leu Leu Trp Gly Thr Ala Asn  
                                  165                      170                      175



Val Phe Ser His Ala Arg Tyr Met Asn Gly Ala Ala Thr Asn Pro Asp  
 180 185 190  
 Phe Asp Val Val Ala Arg Ala Ala Val Gln Ile Lys Asn Ala Ile Asp  
 195 200 205  
 Ala Thr Ile Glu Leu Gly Gly Thr Asn Tyr Val Phe Trp Gly Gly Arg  
 210 215 220  
 Glu Gly Tyr Met Ser Leu Leu Asn Thr Asp Gln Lys Arg Glu Lys Glu  
 225 230 235 240  
 His Leu Ala Gln Met Leu Thr Ile Ala Arg Asp Tyr Gly Arg Ala Arg  
 245 250 255  
 Gly Phe Lys Gly Thr Phe Leu Ile Glu Pro Lys Pro Met Glu Pro Thr  
 260 265 270  
 Lys His Gln Tyr Asp Val Asp Thr Glu Thr Val Ile Gly Phe Leu Lys  
 275 280 285  
 Ala His Gly Leu Asp Gln Asp Phe Lys Val Asn Ile Glu Val Asn His  
 290 295 300  
 Ala Thr Leu Ala Gly His Thr Phe Glu His Glu Leu Ala Val Ala Val  
 305 310 315 320  
 Asp Asn Gly Met Leu Gly Ser Ile Asp Ala Asn Arg Gly Asp Tyr Gln  
 325 330 335  
 Asn Gly Trp Asp Thr Asp Gln Phe Pro Ile Asp Asn Phe Glu Leu Thr  
 340 345 350  
 Gln Ala Met Met Gln Ile Ile Arg Asn Asp Gly Leu Gly Asn Gly Gly  
 355 360 365  
 Thr Asn Phe Asp Ala Lys Thr Arg Arg Asn Ser Thr Asp Pro Glu Asp  
 370 375 380  
 Ile Phe Ile Ala His Ile Ala Gly Met Asp Ala Met Ala Arg Ala Leu  
 385 390 395 400  
 Glu Ser Ala Ala Asn Leu Leu Asn Glu Ser Pro Tyr Gln Lys Met Leu  
 405 410 415  
 Ser Asp Arg Tyr Ala Ser Phe Asp Ala Gly Lys Gly Lys Glu Phe Glu  
 420 425 430  
 Glu Gly Lys Leu Ser Leu Glu Glu Leu Val Ala Tyr Ala Lys Ala Asn  
 435 440 445  
 Gly Glu Pro Lys Gln Thr Ser Gly Gln Gln Glu Leu Tyr Glu Ala Leu  
 450 455 460  
 Val Asn Ile Tyr Ser Leu  
 465 470

&lt;210&gt; 5625

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5625

Met Ile Tyr Asn Ile Asn Val Ile Thr Asn Asn Lys Phe Ser Met Lys  
 1 5 10 15  
 Lys Asn Arg Leu Thr Leu Val Ala Ala Ile Phe Leu Ser Gly Thr Ile  
 20 25 30  
 Leu Phe Ser Ser Cys Val Gly Ser Phe Gly Leu Phe Asn Arg Ile Ser  
 35 40 45  
 Ser Trp Asn Gln Ser Ile Gly Thr Lys Phe Val Asn Glu Leu Val Phe  
 50 55 60  
 Leu Ala Leu Asn Ile Val Pro Val Tyr Gly Val Ala Tyr Leu Ala Asp  
 65 70 75 80  
 Ala Leu Val Ile Asn Ser Ile Glu Phe Trp Ser Gly Thr Asn Pro Met  
 85 90 95  
 Ala Asn Val Gly Asp Val Lys Lys Val Lys Gly Glu Asn Gly Asp Tyr  
 100 105 110

Leu Val Lys Thr Leu Glu Asn Gly Tyr Ser Ile Thr Lys Glu Gly Glu  
 115 120 125  
 Asp Ser Ala Met Glu Leu Ile Tyr Asn Lys Glu Ala Asn Thr Trp Asn  
 130 135 140  
 Val Val Ala Asp Gly Val Ser Thr Glu Leu Leu Lys Met Asn Asn Asp  
 145 150 155 160  
 Gly Thr Ala Glu Met Asn Leu Pro Asn Gly Asp Lys Met Asn Val Thr  
 165 170 175  
 Leu Asp Ala Gln Gly Met Met Ala Ala Arg Gln Ala Thr Met Gly Gly  
 180 185 190  
 Leu Leu Phe Ala Ala Arg  
 195

<210> 5626

<211> 510

<212> PRT

<213> B.fragilis

<400> 5626

Thr Thr Asn Lys Leu Ile Asn Ser Ile Met Phe Leu Leu Gly Tyr Asp  
 1 5 10 15  
 Ile Gly Ser Ser Val Lys Ala Ser Leu Val Asp Ala Glu Thr Gly  
 20 25 30  
 Lys Cys Val Ala Ser Ala Phe Phe Pro Lys Thr Glu Ala Gly Ile Ile  
 35 40 45  
 Ala Ile Arg Pro Gly Trp Ala Glu Gln Glu Pro Glu Ser Trp Trp Glu  
 50 55 60  
 Ser Leu Lys Leu Ser Thr Arg Ser Ile Leu Ser Glu Ser Arg Val Asp  
 65 70 75 80  
 Ala Lys Asp Ile Lys Ala Ile Gly Ile Ser Tyr Gln Met His Gly Leu  
 85 90 95  
 Val Cys Val Asp Lys Arg Gln Arg Thr Leu Arg Pro Ala Ile Ile Trp  
 100 105 110  
 Cys Asp Ser Arg Ala Val Ser Tyr Gly Gln Arg Ala Phe Glu Ala Ile  
 115 120 125  
 Gly Glu Lys Phe Cys Leu Ala His Leu Leu Asn Ser Pro Gly Asn Phe  
 130 135 140  
 Thr Ala Ser Lys Leu Ala Trp Val Lys Glu Asn Glu Pro Asp Ile Tyr  
 145 150 155 160  
 Glu Gln Ile Asp Lys Ile Met Leu Pro Gly Asp Tyr Ile Ala Met Lys  
 165 170 175  
 Leu Ser Gly Glu Val Cys Thr Thr Ile Glu Gly Leu Ser Glu Gly Met  
 180 185 190  
 Phe Trp Asp Phe Arg Asn Asn Arg Pro Ala Asp Phe Leu Met Gln Tyr  
 195 200 205  
 Tyr Gly Ile Asp Pro Ser Leu Ile Ala Asp Ile Arg Pro Thr Phe Ala  
 210 215 220  
 Glu Gln Gly Arg Leu Thr Gly Thr Ala Ala Arg Glu Leu Gly Leu Gln  
 225 230 235 240  
 Glu Gly Thr Pro Ile Thr Tyr Arg Ala Gly Asp Gln Pro Asn Asn Ala  
 245 250 255  
 Leu Ser Leu Asn Val Phe Asn Pro Gly Glu Ile Ala Ser Thr Ala Gly  
 260 265 270  
 Thr Ser Gly Val Val Tyr Gly Val Asn Gly Glu Ile Asn Tyr Asp Pro  
 275 280 285  
 Gln Ser Arg Val Asn Thr Phe Ala His Val Asn His Thr Ala Ala Asp  
 290 295 300  
 Pro Arg Leu Gly Val Leu Leu Cys Ile Asn Gly Thr Gly Ile Leu Asn  
 305 310 315 320

Ser Trp Ile Arg Arg Asn Val Ala Pro Glu Gly Ile Ser Tyr Ala Glu  
 325 330 335  
 Met Asn Arg Phe Ala Ser Ser Val Pro Ile Gly Ser Ala Gly Ile Ser  
 340 345 350  
 Ile Leu Pro Phe Gly Asn Gly Ala Glu Arg Met Leu Asp Asn Arg Ala  
 355 360 365  
 Thr Gly Cys Gly Ile His Gly Val Asp Phe Asn Arg His Asp Lys Ser  
 370 375 380  
 His Leu Ile Arg Ala Ala Gln Glu Gly Ile Val Phe Ser Phe Lys Tyr  
 385 390 395 400  
 Gly Ile Asp Ile Met Glu Glu Met Gly Ile Pro Val Lys Lys Ile His  
 405 410 415  
 Ala Gly His Ala Asn Met Phe Leu Ser Ser Val Phe Arg Glu Thr Leu  
 420 425 430  
 Ala Gly Thr Thr Gly Ala Thr Ile Glu Leu Tyr Asp Thr Asp Gly Ser  
 435 440 445  
 Val Gly Ala Ala Lys Gly Ala Gly Met Gly Ala Gly Ile Tyr Lys Asp  
 450 455 460  
 His Glu Glu Ala Phe Ala Thr Leu Asp Lys Leu Thr Val Val Glu Pro  
 465 470 475 480  
 Asp Ala Gly Lys Gln Gln Glu Tyr Thr Asp Ala Tyr Ala Arg Trp Lys  
 485 490 495  
 Gln Cys Leu Thr Gln Ser Met Gln Thr Glu Thr Glu Asn Lys  
 500 505 510

<210> 5627  
 <211> 84  
 <212> PRT  
 <213> B.fragilis

<400> 5627  
 Ala Met Asn Lys Gln Met Thr Ile Ala Lys Lys Arg Tyr Ser Phe Lys  
 1 5 10 15  
 Lys Ala Tyr Glu Arg Val Pro Leu Gly Gln Ile Glu Ser Leu Lys Lys  
 20 25 30  
 Glu Leu Tyr Ser Val Phe Ser Ile Asn Asn Arg Thr Ser Trp Tyr Asn  
 35 40 45  
 Lys Leu Lys Gly Ile Thr Ser Pro Ser Ile Glu Val Val Glu Ala Val  
 50 55 60  
 Glu Thr Val Phe Leu Lys Tyr Gly Ile Glu Asn Cys Trp Glu Ile Thr  
 65 70 75 80  
 Glu Ile Lys Leu

<210> 5628  
 <211> 78  
 <212> PRT  
 <213> B.fragilis

<400> 5628  
 Ser Glu Asp Asn Gln Ser His Ile Tyr Leu Leu Cys Phe Ser Arg Ser  
 1 5 10 15  
 Leu Thr Ala Gly Met His Ile Ile Lys Ile Glu Val Asn Thr Ile Ala  
 20 25 30  
 Ile Pro Gln Gln Ile Lys Ile Leu Ala Ile Pro Lys Leu Ser Ala Ile  
 35 40 45  
 Asn Pro Val Met Asn Asn Pro Met Ile Glu Gly Asn Lys Leu Thr Leu  
 50 55 60  
 Ser Lys Arg Glu Asn Thr Arg Pro Lys Tyr Ala Gly Leu Asn

75

<213> B.fragilis

[illegible]

<210> 5630  
 <211> 355  
 <212> PRT  
 <213> B.fragilis

<400> 5630

Leu	Lys	Ser	Lys	Lys	Gln	Val	Met	Lys	Lys	Phe	Phe	Arg	Phe	Gln	Leu
1				5					10					15	
Cys	Cys	Ile	Cys	Leu	Leu	Val	Leu	Ile	Val	Ser	Ala	Cys	Lys	Val	Lys
			20					25					30		
Arg	Pro	Asp	Ser	Val	Ile	Ser	Glu	Ser	Glu	Met	Glu	Asn	Leu	Leu	Tyr
		35					40					45			
Asp	Tyr	His	Ile	Ala	Lys	Ala	Met	Gly	Glu	Asn	Met	Pro	Gly	Gly	Glu
	50					55					60				
Asn	Tyr	Lys	Lys	Ala	Leu	Tyr	Val	Glu	Ala	Val	Phe	Lys	Lys	Tyr	Gly
65					70					75					80
Thr	Thr	Glu	Glu	Val	Phe	Asp	Ser	Ser	Met	Val	Trp	Tyr	Thr	Arg	Asn
				85					90					95	
Thr	Lys	Ile	Leu	Ser	Glu	Ile	Tyr	Glu	Lys	Val	Asn	Lys	Arg	Leu	Lys
			100					105					110		
Ala	Gln	Gln	Asn	Ala	Ile	Asn	His	Leu	Ile	Ala	Leu	Arg	Asp	Asn	Lys
			115				120					125			
Pro	Lys	Met	Ser	Ala	Pro	Gly	Asp	Ser	Ile	Asp	Val	Trp	Ala	Trp	Gln
		130				135					140				
Arg	Ile	Ala	Gln	Leu	Thr	Glu	Ala	Pro	Leu	Asn	Asn	Lys	Phe	Thr	Phe
145					150					155					160
Thr	Leu	Pro	Ser	Asp	Thr	Asn	Phe	Lys	Lys	Arg	Asp	Val	Leu	Leu	Trp
				165					170					175	
Lys	Met	Gln	Tyr	Asn	Phe	Leu	Ser	Glu	Ile	Pro	Asp	Ser	Thr	Met	Ala
			180					185					190		
Pro	Ile	Met	Ala	Met	Gln	Ile	Val	Tyr	Glu	Asn	Asp	Thr	Val	Thr	His
		195					200					205			
Ser	Cys	Val	Lys	His	Ile	Phe	Lys	Ser	Gly	Ile	Gln	Asn	Ile	Arg	Leu
	210					215					220				
Gln	Ser	Asp	Thr	Met	Asn	Ile	Lys	Glu	Ile	Lys	Gly	Phe	Ile	Phe	Cys
225					230					235					240
Pro	Leu	Ser	Glu	Glu	Ser	Ile	Thr	Leu	Leu	Val	Ser	Asp	Ile	Ser	Leu
			245						250					255	
Thr	Arg	Tyr	His	Ala	Asn	Asp	Ser	Ile	Thr	Gln	Ile	Gly	Arg	Asp	Ser
			260					265					270		
Leu	Lys	Thr	Asp	Ser	Ile	Lys	Glu	Lys	Ser	Lys	Asp	Asp	Ser	Ile	Gln
		275					280					285			
Lys	Lys	Thr	Pro	Lys	Asp	Thr	Ile	Gln	Ala	Ser	Ser	Pro	His	Gln	Arg
		290				295						300			
Thr	Asn	Pro	Asn	Asp	Leu	Asn	Arg	Pro	Asn	Asn	Asp	Val	Arg	Pro	Ile
305					310					315					320
Lys	Pro	Glu	Gln	Arg	Glu	Lys	Glu	Met	Gln	Ile	Glu	Lys	Glu	Lys	Gln
			325						330					335	
Gln	Leu	Glu	Arg	Gln	Gln	Arg	Thr	Asn	Pro	Arg	Arg	Pro	Leu	Arg	Arg
			340					345					350		
Gln	Asn	Asn													
		355													

<210> 5631  
 <211> 60  
 <212> PRT  
 <213> B.fragilis

<400> 5631

Leu Leu Ile Asn Gly Ser Arg Val Arg Val Pro Glu Gly Val Gln Lys  
 1 5 10 15  
 Glu Ile Ile Asn Asn Leu Leu Phe Val Phe Gly Gly Ile Leu Lys Tyr  
 20 25 30  
 Cys Phe Ile Phe Ala Thr Ala Lys Ile Asn Leu Met Lys Thr Thr Tyr  
 35 40 45  
 Gln Phe Asn Ile Leu Val Asn His Leu Glu Leu Ala  
 50 55 60

<210> 5632  
 <211> 133  
 <212> PRT  
 <213> B.fragilis

<400> 5632  
 Tyr Ile Pro Asn Lys Gln Asp Ile Ser Leu Ile Ile Asn Ile Asn Phe  
 1 5 10 15  
 Ile Ile Met Asn Phe Asp Leu Lys Ala Phe Arg Lys Arg Phe Gly Leu  
 20 25 30  
 Lys Gln Val Glu Val Ala His Leu Phe Asn Cys Gly Gln Ser Asn Ile  
 35 40 45  
 Ser Asp Ile Glu Thr Gly Lys Arg Gly Leu Glu Glu Tyr Gln Thr Arg  
 50 55 60  
 Ile Leu Phe Asp Lys Tyr Gly Glu Glu Val Val Lys Glu Tyr Leu Ile  
 65 70 75 80  
 Pro Glu Ser Ala Ile His Gln Gly Asn Ile Asn Gly Asp Asn Ile Asn  
 85 90 95  
 Gly His Asn Val Thr Val Asn Lys Ala Asp Phe Asp Lys Leu Ile Ser  
 100 105 110  
 Leu Leu Asn Lys Arg Asp Glu Gln Ile Asp Arg Leu Leu Arg Ile Ile  
 115 120 125  
 Glu Asn Leu Asn Lys  
 130

<210> 5633  
 <211> 206  
 <212> PRT  
 <213> B.fragilis

<400> 5633  
 Glu Arg Asn Asn Ile Met Thr Leu Lys Gln Ala Gln Lys Leu Tyr Asp  
 1 5 10 15  
 Asp Ser Val Gln Ala Lys Met Thr His Ala Asp Tyr Cys Met Thr Gln  
 20 25 30  
 Ser Gln Leu Glu Tyr Ile Gly Arg Thr Met Trp Gly Phe Thr Pro Asp  
 35 40 45  
 Lys Gln Ala Lys Val Leu Phe Thr Lys Val Gly Lys Arg Val Ser Val  
 50 55 60  
 Val Ile Ala Ser Arg Glu Ala Phe Ile Lys Glu Ile Gly Lys Pro Val  
 65 70 75 80  
 Ile Cys Lys Cys Ser Val Cys Asp Met Tyr Tyr Leu Ala Tyr Arg Lys  
 85 90 95  
 Ser Val Asp Ala His Asp Glu Leu Asn Ala Gln Cys Pro Lys Cys Asp  
 100 105 110  
 Ser Leu Gly Cys Asp Ser Asp Ile Val His Phe Glu Thr Ser Arg Lys  
 115 120 125  
 Phe Trp Leu Asn Glu Lys Ile Val Lys Ile Leu Thr Pro Asn Lys Asp  
 130 135 140  
 Pro Glu Arg Val Glu Ala Met Tyr Asp Ser Ala Pro Glu Asp Phe Pro

145		150		155		160									
Ala	Gln	Tyr	Glu	Met	Leu	Leu	Pro	Asp	Gly	Lys	Arg	Cys	Thr	Asp	Cys
			165						170					175	
Val	Arg	Cys	Ala	Thr	Cys	Cys	Ser	Val	Phe	Gly	Gln	Lys	Glu	Ser	Ala
			180					185					190		
Thr	Ile	Cys	Gln	Trp	His	Pro	Ser	Arg	Tyr	Ser	Ala	Gly	Glu		
		195					200					205			

<210> 5634  
 <211> 229  
 <212> PRT  
 <213> B.fragilis

<400> 5634

His	Ser	Leu	Asn	Ser	Phe	Asn	His	Gln	Cys	Leu	Ile	Leu	Lys	Arg	Gln
1			5						10					15	
Asn	Met	Lys	Thr	Pro	Ser	Leu	Ile	Leu	Met	Thr	Ile	Ile	Leu	Cys	Asn
		20						25					30		
Leu	Ser	Ile	Pro	Ile	Asn	Ala	Gln	Ile	Leu	Thr	Ser	Arg	Gln	Gln	Lys
	35						40					45			
Glu	Asp	Phe	Asp	Thr	Leu	Tyr	Ser	Leu	Leu	His	Gln	Val	His	Pro	Asp
	50				55					60					
Leu	Phe	Val	Tyr	Gln	Thr	Gln	Lys	Glu	Phe	Glu	Lys	Lys	His	Asp	Ser
65				70					75					80	
Ile	Tyr	Ser	Ser	Leu	Asn	Lys	Glu	Arg	Asn	Leu	Ser	Asp	Phe	Tyr	Phe
			85					90					95		
Ile	Val	Ser	Pro	Phe	Val	Ala	Ser	Val	Lys	Asp	Gly	His	Thr	Asn	Phe
			100					105					110		
Thr	Ile	Pro	Ala	Thr	Gln	Asp	Arg	Ile	Thr	Tyr	Leu	Asn	Asn	Gly	Gly
		115					120					125			
Leu	Thr	Leu	Pro	Leu	Arg	Leu	Lys	Ile	Val	Glu	Asn	Lys	Ile	Leu	Val
	130					135				140					
Asp	Phe	Pro	Leu	Ile	Ser	Cys	Ser	Ile	Gln	Glu	Asn	Asp	Glu	Ile	Ile
145				150					155					160	
Cys	Met	Asn	Asn	Ile	Asn	Ser	Gln	Thr	Ile	Leu	Ser	Gln	Leu	Tyr	Leu
			165						170				175		
Leu	Leu	Gly	Ala	Glu	Lys	Gly	Asn	Ala	Ile	Lys	Glu	Asn	Gln	Leu	Thr
		180					185						190		
Ser	Tyr	Leu	Ser	Thr	Leu	Leu	Trp	Tyr	Lys	Tyr	Asn	Trp	Gly	Glu	Asn
	195						200					205			
Met	Ile	Leu	Gln	Leu	Lys	Glu	Glu	Lys	Arg	Tyr	Gly	Lys	Asn	His	Trp
	210					215					220				
Met	Val	Ser	Ala	Lys											
225															

<210> 5635  
 <211> 158  
 <212> PRT  
 <213> B.fragilis

<400> 5635

His	Ile	Val	Asn	Gln	Asn	Met	Asn	Thr	Asn	Asn	Ile	Gly	Gly	Val	
1			5					10					15		
Ile	Gln	Ala	Asp	Phe	Leu	Phe	Thr	Asp	Glu	Ile	Ser	Leu	Phe	Ser	Val
		20						25				30			
Ile	Asn	His	Ser	Ala	Val	Ile	Ser	Leu	His	Arg	Pro	Asn	Thr	Trp	Arg
	35					40						45			
Asn	Leu	Pro	Ile	Thr	Tyr	Met	Gly	Val	Ser	Pro	Asp	Val	Glu	Ala	Asp
	50					55						60			

Asp Thr Gln Ala Gly Thr Leu Tyr Lys Gln Thr Leu Thr Ile Arg Leu  
 65 70 75 80  
 Lys Arg Thr Gly Leu Thr Asp Ser Glu Leu His Ile Leu Arg Thr Ile  
 85 90 95  
 Asn Val Arg Gly Cys Val Val Arg Cys Lys Asp Ala Asn Gly Asn Ile  
 100 105 110  
 Arg Leu Tyr Gly Ser Lys Glu Tyr Pro Leu Leu Gly Thr Val Ile Glu  
 115 120 125  
 Lys Thr Gly Thr Lys Ala Ser Asp Leu Ser Gly Ile Glu Ala Thr Phe  
 130 135 140  
 Ser Gly Lys Gly Ala Tyr Pro Pro Leu Pro Val Thr Glu Leu  
 145 150 155

<210> 5636  
 <211> 80  
 <212> PRT  
 <213> B.fragilis

<400> 5636  
 Lys Gly Ser Lys Met Gly Thr Gly Phe Thr Glu Tyr Glu Glu Ser Leu  
 1 5 10 15  
 Ile Gln Ala Ile Cys Ser Leu Tyr Tyr Ile Gln Thr Arg Thr Tyr Lys  
 20 25 30  
 Gln Gly Val Phe Ile Gly Met Ile Pro Lys Asn Thr Arg Ile Thr Leu  
 35 40 45  
 Asn Gly Ile Tyr Met Met Lys Leu Leu Asn Thr Gly Asn Ala Val Tyr  
 50 55 60  
 Ile Glu Val Lys Gly Gly Ile Asn Val Leu Thr Ile Ile His Gln Gln  
 65 70 75 80

<210> 5637  
 <211> 202  
 <212> PRT  
 <213> B.fragilis

<400> 5637  
 Ile Met Pro Lys Lys Asp Thr Thr Tyr Asp Arg Ile Glu Arg Ser Leu  
 1 5 10 15  
 Phe Lys Asp Arg Gly Glu Ser Ala Leu Gln Leu Ser Pro Lys Glu Met  
 20 25 30  
 Glu Ile Lys Asn Arg Met Met Leu Cys Val Ser Lys Lys Met Glu Ser  
 35 40 45  
 Pro Leu Ile Glu Asp Gln Glu Leu Val Thr Phe Leu Met His Gly Cys  
 50 55 60  
 Gly Gly Gln Ala Glu Pro Val Ser Gln Ser Gln Ala Tyr Arg Asp Ile  
 65 70 75 80  
 Gly Met Ile Asn Arg Leu Val Gly Asn Ile Gln Leu Ala Ala Lys Ser  
 85 90 95  
 Trp Tyr Arg Tyr Met Ile Val Glu Gly Gly Lys Lys Ala Phe Gln Leu  
 100 105 110  
 Ala Ile Asp Asn Gly Asp Ala Lys Gly Ala Ala Ala Ala Leu Asp Lys  
 115 120 125  
 Ile Gly Lys Tyr Thr Arg Ser Asp Lys Asp Asp Ala Phe Asp Phe  
 130 135 140  
 Ser Gln Leu Ile Pro Pro Ser Phe Glu Pro Ser Asp Asp Val Thr Thr  
 145 150 155 160  
 Leu Glu Gly Ile Glu Val Ile Asp Asn Leu Glu Gln Arg Arg Gln Glu  
 165 170 175  
 Leu Arg Ser Leu Cys Lys Asp Met Leu Thr Lys Gln Ala Thr Asp Ile



180 185 190  
 Gln Thr Ile Glu Glu Glu Asp Ile Glu Glu  
 195 200

<210> 5638  
 <211> 120  
 <212> PRT  
 <213> B.fragilis

<400> 5638  
 Arg Thr Ala Lys Met Glu Asn Ile Phe Asp Ser Ala Lys Thr Ile Gln  
 1 5 10 15  
 Glu Lys Arg Thr Ile Leu Lys Gly Leu Ser Lys Pro Leu Gln Ile Leu  
 20 25 30  
 Val Lys Glu Ala Ala Ile Pro Thr Val Asn Asp Gly Leu Lys Ala Ile  
 35 40 45  
 Tyr Ala Gln Ser Gly His Thr Glu Leu Lys Thr Leu Lys Gln Trp Asn  
 50 55 60  
 Lys Glu Gly Arg Ser Ile Lys Lys Gly Ser His Ala Leu Cys Leu Trp  
 65 70 75 80  
 Gly Ala Pro Lys Lys Val Glu Thr Thr Gln Val Glu Glu Ala Gln Gly  
 85 90 95  
 Glu Asp Asn Asp Pro Met Asn Phe Tyr Pro Ile Cys Phe Val Phe Ser  
 100 105 110  
 Asn Leu Gln Val Tyr Glu Lys Gln  
 115 120

<210> 5639  
 <211> 64  
 <212> PRT  
 <213> B.fragilis

<400> 5639  
 Ile Ala Gln Asn Cys Ile Leu Tyr Ala Gln Cys Ile Asn Arg Thr Lys  
 1 5 10 15  
 Thr Tyr His Val Ser Tyr Gly Tyr Lys Pro Ile Ile Ile Asn Thr Leu  
 20 25 30  
 Cys Asp Lys Thr Ala Gln Phe Thr Gln Leu His Lys Lys Gly Val Pro  
 35 40 45  
 Phe Leu Gln Gly Gly Leu Val Cys Ser Gly Lys Ser Cys Leu Cys Pro  
 50 55 60

<210> 5640  
 <211> 252  
 <212> PRT  
 <213> B.fragilis

<400> 5640  
 Thr Ile Lys Asn Thr Ile Thr Met Lys Lys Ile Ile Leu Leu Leu Ala  
 1 5 10 15  
 Leu Cys Phe Thr Ala Asn Asn Phe Phe Ala Gln Thr Thr Asp Pro Asn  
 20 25 30  
 Gln Leu Lys Asn Glu Gly Asn Asp Ala Leu Asn Ala Lys Asn Tyr Ala  
 35 40 45  
 Val Ala Phe Glu Lys Tyr Ser Glu Tyr Leu Lys Leu Thr Asn Asn Gln  
 50 55 60  
 Asp Ser Val Thr Ala Tyr Asn Cys Gly Val Cys Ala Asp Asn Ile Lys  
 65 70 75 80  
 Lys Tyr Lys Glu Ala Ala Asp Tyr Phe Asp Ile Ala Ile Lys Lys Asn

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<210> 5641
<211> 122
<212> PRT
<213> B.fragilis
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<210> 5642
<211> 359
<212> PRT
<213> B.fragilis
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<400> 5642
Thr Ile Arg Lys Glu Gly Cys Leu Met Ala Val Tyr Asn Arg Ile Pro
1          5          10          15
Asp Arg Phe Thr Asn Leu Asp Ile Arg Asp Thr Leu Asn Ala Tyr Gly
          20          25          30
Gly Ser Val Gly Asp Asn Ser Leu Asn Tyr Phe Ser Ala Ala Ala His
          35          40          45
Ile Asn Met Trp Ser Lys Arg Lys Pro Val Lys Arg Asn Ile Met Phe
          50          55          60

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Asn Thr Glu Asp Pro Asn Trp Phe Arg Ala Asp Ser Gly Asn Tyr Gly
65      70      75      80
Ile Asn Val Pro Arg Ala Ala Asp Ile Ala Leu Leu Thr Gly Thr Tyr
      85      90      95
Thr Tyr Asp Ile Pro Val Gln Gly Ser Tyr Asn Leu Arg Val Gly Asp
      100      105      110
Phe Ala Gly Tyr Asn Pro Glu Ala Thr Val Pro Phe Thr Thr Met Leu
      115      120      125
Pro Ser Gly Leu Ile Leu Ala Ser Gly Ser Ala Thr Val Val Lys Leu
      130      135      140
Met Leu Lys Ser Leu Asp Ser Thr Tyr Asn Val Val Pro Ala Asp Ile
145      150      155      160
Phe Pro Ser Asn Ser Tyr Leu Gly Cys Ala Val Thr Tyr Gly Asn Arg
      165      170      175
Thr Leu Ile Lys Thr Leu Ser Val Thr Ile Phe Asn Gly Gly Val Thr
      180      185      190
Leu Asn Ile Ser Asp Cys Glu Leu Leu Lys Ser Asp Lys Thr Gly Val
      195      200      205
Arg Ile Lys Val Phe Ile Cys Thr Ser Gln Val Pro Ser Trp Gln Gly
      210      215      220
Glu Thr Thr Gln Ser Tyr Ser Leu Asn Ala Glu Asp Gly Phe Asp
225      230      235      240
Glu Ser Thr Val Asp Ile Val Thr Pro His Ala Asp Val Tyr Ser Phe
      245      250      255
Gly Ile Leu Gly Leu Ser Ile Ile Glu Ala Arg Lys Ile Ser Leu Ile
      260      265      270
Gly Thr Ala Ile Ile Asn Ser Gly Ser Leu Phe Gln Glu Gly Arg Leu
      275      280      285
Ile Ser Arg Leu Asp Asn Asn Tyr Tyr Leu Lys Ser Val Lys Val Val
      290      295      300
Ala Thr Arg Ala Ser Asp Gly Val Thr Val Ala Glu Lys Ala Gln Ser
305      310      315      320
Ile Thr Ser Ser Thr Thr Pro Thr Arg Leu Gly Asn Asp Trp Met Ala
      325      330      335
Gly Glu Ser Val Asn Phe Arg Thr Pro Val Ser Arg Ser Ser Pro Gly
      340      345      350
Ala Gly Gly Glu His Val Val
      355

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&lt;210&gt; 5643

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5643

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Thr Leu Gly Asn Thr Gly Phe Thr Glu Arg Gln Phe Leu Asn Asn Ser
1      5      10      15
Phe Phe Asn Leu Ser Asn Tyr Lys Leu Lys Val Met Ser Arg Arg Arg
      20      25      30
Gln Leu Glu His Glu Val Ser Leu Ala Gln Glu Arg Ile Lys Lys Ala
      35      40      45
Pro Lys Asp Thr Pro Lys Glu Ile Leu Lys Thr Trp Glu Gln Glu Leu
      50      55      60
Val Asp Leu Glu Leu Glu Leu Asn Asn Leu Val Asp Asp Glu Glu Asp
65      70      75      80
Asn Asn Glu

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&lt;210&gt; 5644

<211> 331  
 <212> PRT  
 <213> B.fragilis

<400> 5644

Asn	Arg	Leu	Lys	Asn	Ile	Leu	Ser	Ile	Ala	Gln	Phe	His	Gln	Ile	Cys
1				5					10					15	
Ala	Met	Ile	Leu	Gln	Lys	Tyr	Ile	Thr	Leu	His	Pro	Gln	Ile	Lys	Leu
			20					25					30		
Lys	Asn	Lys	Asn	Met	Lys	Ala	Phe	Val	Phe	Pro	Gly	Gln	Gly	Ala	Gln
		35				40					45				
Phe	Val	Gly	Met	Gly	Lys	Asp	Leu	Tyr	Glu	Thr	Ser	Ala	Leu	Ala	Lys
	50				55				60						
Glu	Leu	Phe	Glu	Lys	Ala	Asn	Asp	Ile	Leu	Gly	Tyr	Arg	Ile	Thr	Asp
65				70					75					80	
Ile	Met	Phe	Asn	Gly	Thr	Asp	Glu	Asp	Leu	Arg	Gln	Thr	Lys	Val	Thr
			85					90					95		
Gln	Pro	Ala	Val	Phe	Leu	His	Ser	Val	Ile	Ser	Ala	Leu	Cys	Met	Gly
		100					105						110		
Asp	Asp	Phe	Lys	Pro	Glu	Met	Thr	Ala	Gly	His	Ser	Leu	Gly	Glu	Phe
	115					120					125				
Ser	Ala	Leu	Val	Ala	Ala	Gly	Ala	Leu	Ser	Phe	Glu	Asp	Gly	Leu	Lys
	130				135					140					
Leu	Val	Tyr	Ala	Arg	Ala	Met	Ala	Met	Gln	Lys	Ala	Cys	Glu	Ala	Thr
145				150					155					160	
Pro	Ser	Thr	Met	Ala	Ala	Ile	Ile	Ala	Leu	Pro	Asp	Glu	Lys	Val	Glu
			165					170					175		
Glu	Ile	Cys	Ala	Ser	Val	Thr	Ala	Glu	Gly	Glu	Val	Cys	Val	Pro	Ala
		180					185					190			
Asn	Tyr	Asn	Cys	Pro	Gly	Gln	Ile	Val	Ile	Ser	Gly	Ser	Val	Pro	Gly
	195				200					205					
Ile	Glu	Lys	Ala	Cys	Glu	Leu	Met	Lys	Ala	Ala	Gly	Ala	Lys	Arg	Ala
	210				215					220					
Leu	Pro	Leu	Lys	Val	Gly	Gly	Ala	Phe	His	Ser	Pro	Leu	Met	Asp	Pro
225				230					235					240	
Ala	Lys	Val	Glu	Leu	Glu	Ala	Ala	Ile	Asn	Ala	Thr	Glu	Phe	His	Thr
		245						250					255		
Pro	Lys	Cys	Pro	Val	Tyr	Gln	Asn	Val	Asp	Ala	Leu	Pro	His	Thr	Asp
		260					265					270			
Pro	Gln	Glu	Ile	Lys	Lys	Asn	Leu	Val	Ala	Gln	Leu	Thr	Ala	Ser	Val
	275					280					285				
Arg	Trp	Thr	Gln	Thr	Val	Lys	Asn	Met	Val	Ala	Asp	Gly	Ala	Thr	Asp
	290				295					300					
Phe	Thr	Glu	Cys	Gly	Pro	Gly	Ala	Val	Leu	Gln	Gly	Leu	Ile	Lys	Lys
305				310					315					320	
Ile	Asp	Ser	Thr	Val	Ser	Ala	His	Gly	Ile	Ala					
			325					330							

<210> 5645  
 <211> 157  
 <212> PRT  
 <213> B.fragilis

<400> 5645

Cys	Ile	Met	Lys	Asn	Leu	Glu	Ile	Leu	Pro	Leu	Ser	Ala	Glu	Ser	Lys
1				5					10					15	
Lys	Arg	Ile	Glu	Glu	Phe	Ala	Arg	Gln	Tyr	Gln	Arg	Tyr	Ala	His	Ile
		20						25				30			
Ala	Ile	Glu	Ile	Val	Ser	Tyr	Ser	Glu	Gly	Arg	Leu	Ile	Val	Arg	Ala

35	40	45
Glu Gln Lys Asp Leu Val Asn Asp Lys Phe Leu Ser Lys Lys Glu Leu		
50	55	60
Thr Glu Arg Val Arg Asp Met Phe Lys Asp Glu Ile Pro Glu Asp Trp		
65	70	75
Lys Leu Thr Val Ser Ala Val Asn Phe Asp Arg Lys Asp Ile Asp Gly		
85	90	95
Ile Thr Leu Asp Trp Ile Lys Lys Arg Met Glu Arg Leu Gly Leu Lys		
100	105	110
Asn Lys His Leu Ser Asn Tyr Thr Gly Ile Asp Lys Cys Thr Val Ser		
115	120	125
Ser Ile Leu Ser Gly Asp Lys Glu Leu Thr Lys Trp His Lys Val Ala		
130	135	140
Leu Tyr Tyr Phe Phe Lys Tyr Tyr Glu Val Ala Asn Phe		
145	150	155

<210> 5646  
 <211> 111  
 <212> PRT  
 <213> B.fragilis

<400> 5646
His Thr Met Asn Leu Ser Ser Phe Lys Leu Thr Asn Ile Asn Glu Leu
1 5 10 15
Ile Ser Val Tyr Lys Glu Asn Pro Glu Arg Phe Asn Arg Phe Tyr Asn
20 25 30
Ala Val Tyr Leu Leu Leu Asp Gly Ile Pro Glu Cys Gly Ser Ile Arg
35 40 45
Val Met Asp His Cys Glu Ala Ser Ser Tyr Asp Leu Phe Ile Lys Cys
50 55 60
Ala Cys Trp Ile Ile Gln Glu Glu Thr Glu Gln Lys Glu Leu Thr Asp
65 70 75 80
Ala Leu Leu Glu Phe Ser Asp Asp Tyr Thr Ile Ile Arg Arg Cys Ala
85 90 95
Lys Phe Val Lys Ser Lys Ser Trp Val His Phe Tyr Ser Arg Arg
100 105 110

<210> 5647  
 <211> 439  
 <212> PRT  
 <213> B.fragilis

<400> 5647
Lys Asn Met Lys Ile Ala Ile Val Gly Thr Gly Tyr Val Gly Leu Val
1 5 10 15
Thr Gly Thr Cys Phe Ala Glu Ile Gly Val Asp Val Thr Cys Val Asp
20 25 30
Thr Asn Ser Glu Lys Ile Glu Ala Leu Lys Lys Gly Ile Ile Pro Ile
35 40 45
Tyr Glu Asn Gly Leu Glu Glu Met Val Ile Arg Asn Thr Lys Ala Gly
50 55 60
Arg Leu Lys Phe Thr Thr Ser Leu Glu Ser Cys Leu Asp Asp Val Glu
65 70 75 80
Val Val Phe Ser Ala Val Gly Thr Pro Pro Asp Glu Asp Gly Ser Ala
85 90 95
Asp Leu Ser Tyr Val Leu Ala Val Ala Arg Thr Ile Gly Gln Asn Met
100 105 110
Lys Lys Tyr Lys Leu Val Val Thr Lys Ser Thr Val Pro Val Gly Thr
115 120 125

Ala Cys Lys Val Arg Asn Ala Ile Gln Glu Glu Leu Asp Lys Arg Gly  
 130 135 140  
 Ala Lys Ile Glu Phe Asp Val Ala Ser Asn Pro Glu Phe Leu Lys Glu  
 145 150 155 160  
 Gly Asn Ala Val Asn Asp Phe Met Ser Pro Asp Arg Val Val Ile Gly  
 165 170 175  
 Val Glu Ser Glu Arg Ala Glu Lys Leu Met Thr Lys Leu Tyr Lys Pro  
 180 185 190  
 Phe Met Leu Asn Asn Phe Arg Val Ile Phe Met Asp Ile Pro Ser Ala  
 195 200 205  
 Glu Met Thr Lys Tyr Ala Ala Asn Ser Met Leu Ala Thr Arg Ile Ser  
 210 215 220  
 Phe Met Asn Asp Ile Ala Asn Leu Cys Glu Leu Val Gly Ala Asp Val  
 225 230 235 240  
 Asn Met Val Arg Ser Gly Ile Gly Ser Asp Thr Arg Ile Gly Arg Lys  
 245 250 255  
 Phe Leu Tyr Pro Gly Ile Gly Tyr Gly Gly Ser Cys Phe Pro Lys Asp  
 260 265 270  
 Val Lys Ala Leu Ile Lys Thr Ala Glu Gln Asn Gly Tyr Gln Met Arg  
 275 280 285  
 Val Leu Gln Ala Val Glu Glu Val Asn Glu Asn Gln Lys Ser Leu Leu  
 290 295 300  
 Phe Asp Lys Leu Val Lys Gln Tyr Asn Gly Asn Leu Glu Gly Lys Thr  
 305 310 315 320  
 Val Ala Leu Trp Gly Leu Ala Phe Lys Pro Glu Thr Asp Asp Met Arg  
 325 330 335  
 Glu Ala Pro Ala Leu Val Leu Ile Asp Lys Leu Leu Lys Ala Gly Cys  
 340 345 350  
 Lys Val Arg Ala Tyr Asp Pro Ala Ala Ala Asn Glu Cys Lys Arg Arg  
 355 360 365  
 Ile Gly Glu Thr Ile Tyr Tyr Ala Arg Asp Met Tyr Asp Ala Val Leu  
 370 375 380  
 Asp Ala Asp Ala Leu Met Leu Val Thr Glu Trp Lys Glu Phe Arg Leu  
 385 390 395 400  
 Pro Ser Trp Ala Val Val Lys Lys Thr Met Ser Gln Gln Val Val Met  
 405 410 415  
 Asp Gly Arg Asn Ile Tyr Asp Lys Lys Glu Met Glu Glu Gln Gly Phe  
 420 425 430  
 Ile Tyr His Cys Ile Gly Lys  
 435

<210> 5648  
 <211> 166  
 <212> PRT  
 <213> B.fragilis

<400> 5648  
 Asn Lys Met Lys Asn Val Ser Ser Ala Lys Ser Ala Glu Ala Lys Ala  
 1 5 10 15  
 Val Val Leu Ser Asn Val Ala Asn Lys Lys Asn Glu Thr Ala Pro Leu  
 20 25 30  
 Ile Val Leu Pro Ser Leu Pro Thr Glu Lys Glu Glu Thr Lys Glu Gln  
 35 40 45  
 Val Ser Ala Lys Val Glu Thr Pro Val Gln Thr Ser Lys Lys Glu Ser  
 50 55 60  
 Ser Ser Val Val Ala Ala Pro Asn Lys Arg Leu Ser Ile Asp Glu Leu  
 65 70 75 80  
 Thr Asp Lys Ala Glu Arg Val Tyr Leu Leu Arg Gln Lys Tyr Gln Glu  
 85 90 95

```

Val Arg Glu Lys Arg Lys Gln Leu Glu Ser Phe Thr Ile Ser His Asp
      100      105      110
Lys Asn Asn Ala Gln Leu Thr Leu Val Asp Ala Lys Gly Leu Ser Ile
      115      120      125
Ser Thr Ser Asn Pro Val Ala Ile Gly Lys Leu Leu Ser Asp Trp Met
      130      135      140
Leu Asp Leu Asn Asn His Leu Ala Lys Thr Glu Glu Glu Ile Arg Ser
145      150      155      160
Glu Leu Glu Arg Leu Asn
      165

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<210> 5649  
 <211> 82  
 <212> PRT  
 <213> B.fragilis

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<400> 5649
Lys Glu Met Asn Ser Asp Gly Asn Lys Ile Leu Asp Ala Ile Lys Arg
1      5      10      15
Met Ala Ala Asp Asp Asn Lys Gly Leu Arg Met Thr Thr Thr Ile Val
      20      25      30
Asp Val Lys Asp Asp Pro Leu Gly Ser Ile Val Gly Phe Gly Thr Glu
      35      40      45
Lys Val Cys Gly Asp Asp Ala Phe Ala Gln Thr Met Gly Leu Pro Gly
      50      55      60
Lys Tyr Met Ala Cys Ala Phe Phe Ile Asp Arg Glu Glu Leu Lys Lys
65      70      75      80
Tyr Leu

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<210> 5650  
 <211> 174  
 <212> PRT  
 <213> B.fragilis

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<400> 5650
Leu Lys Pro Asn Tyr Met Arg His Val Lys Trp Ile Phe Val Val Leu
1      5      10      15
Leu Ile Ser Ser Leu Thr Ser Phe Val Glu Lys Asp Lys Pro Thr Gly
      20      25      30
Gly Leu Asn Val Gly Asp Val Ala Pro Asp Phe Thr Ile Glu Ser Thr
      35      40      45
Ser Asp Ala Gln Tyr Asn Phe Asp Leu Thr Asp Leu Lys Gly Lys Tyr
      50      55      60
Val Leu Leu Ser Phe Trp Ala Ser Tyr Asp Ala Gln Ser Arg Met Gln
65      70      75      80
Asn Ala Ser Leu Ser Asn Ala Leu Arg Ser Thr Ser Gln Asp Val Glu
      85      90      95
Met Val Ser Val Ser Phe Asp Glu Tyr Gln Ser Val Phe Gln Glu Thr
      100      105      110
Ile Arg Lys Asp Gln Ile Val Thr Pro Thr Cys Phe Ala Glu Thr Lys
      115      120      125
Gly Glu Ser Ser Gly Leu Phe Lys Lys Tyr Arg Leu Asn Arg Gly Phe
      130      135      140
Thr Asn Tyr Leu Leu Asp Gly Asn Gly Val Ile Ala Lys Asn Ile
145      150      155      160
Ser Ala Ala Glu Leu Ser Ala Tyr Ala Asn Lys Ile Lys Gly
      165      170

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<210> 5651  
 <211> 187  
 <212> PRT  
 <213> B.fragilis

<400> 5651

Tyr	His	Gln	Lys	Arg	Met	Asn	Tyr	Ile	Gln	Thr	Glu	Ile	Asp	Gly	Val
1				5					10					15	
Trp	Ile	Ile	Glu	Pro	Lys	Ile	Phe	Phe	Asp	Pro	Arg	Gly	Tyr	Phe	Met
			20					25					30		
Glu	Ala	Phe	Lys	Gln	Gln	Glu	Phe	Asp	Ala	Thr	Ile	Gly	Gln	Ile	Asn
		35					40					45			
Phe	Ile	Gln	Asp	Asn	Glu	Ser	Gln	Ser	Ser	Phe	Gly	Thr	Leu	Arg	Gly
		50				55					60				
Leu	His	Tyr	Gln	Lys	Gly	Ala	Tyr	Ser	Gln	Ala	Lys	Leu	Val	Arg	Val
65					70				75					80	
Ile	Lys	Gly	Glu	Val	Leu	Asp	Val	Ala	Val	Asp	Leu	Arg	Lys	Ser	Ser
			85						90					95	
Pro	Thr	Phe	Gly	Lys	His	Ile	Ser	Val	Leu	Leu	Ser	Asp	Glu	Asn	Lys
			100					105					110		
Arg	Gln	Leu	Phe	Ile	Pro	Arg	Gly	Phe	Ala	His	Gly	Phe	Leu	Val	Lys
		115					120					125			
Ser	Glu	Ile	Ala	Ile	Phe	Thr	Tyr	Lys	Val	Asp	Asn	Ile	Tyr	Ala	Pro
		130				135					140				
Gln	Ser	Glu	Ala	Ser	Ile	Leu	Tyr	Asn	Asp	Pro	Ala	Leu	Ala	Ile	Asp
145					150					155					160
Trp	Pro	Ile	Ala	Asp	Ser	Gln	Leu	Val	Met	Ser	Glu	Lys	Asp	Lys	Gln
				165					170					175	
Ala	Gly	Ala	Phe	Arg	Glu	Ala	Glu	Tyr	Phe	Glu					
			180					185							

<210> 5652  
 <211> 206  
 <212> PRT  
 <213> B.fragilis

<400> 5652

Gly	Asp	Lys	Asn	Met	Glu	Ser	Lys	Phe	His	Glu	Leu	Lys	Asn	Arg	Leu
1				5					10					15	
Leu	Lys	Asn	Ile	Asp	Gln	Thr	Ser	Glu	Ser	Arg	Leu	Tyr	Met	Asp	Ile
			20					25					30		
Gln	Leu	Ala	Gln	Asn	Cys	Glu	Thr	Leu	Met	Ser	Ile	Ile	Lys	Lys	Asp
		35					40					45			
Ile	Gly	Tyr	Leu	Ala	Lys	Glu	Gly	Ile	Leu	Ser	Pro	Gly	Ile	Ala	Glu
		50				55					60				
Asp	Phe	Lys	Asp	Val	Phe	Leu	Ser	Ala	Gly	Ile	Lys	Cys	Asn	Ser	Gly
65					70					75				80	
Gly	Ser	Ser	Gly	Tyr	Met	Leu	Ile	Trp	Asp	Gly	Thr	Ala	Val	Asp	Ile
				85					90					95	
Ser	Gly	Thr	Ala	Thr	Ala	Val	Ile	Trp	Lys	Ser	Glu	Arg	Ala	Phe	Ile
			100					105					110		
Lys	Gly	Arg	Ala	Cys	Ala	Phe	Leu	Leu	Gly	Glu	Val	Ser	Ala	Ile	Thr
		115					120					125			
Cys	Glu	Arg	Ser	Met	Val	Ile	Ala	Ala	Gly	Ser	Ser	Thr	Ile	Leu	Ala
		130				135					140				
Glu	Gly	Asp	Ser	Val	Val	Gly	Val	Ser	Gly	Tyr	His	Ala	Ser	Val	Lys
145					150					155					160
Ala	Ser	Asp	Tyr	Ala	Thr	Val	Val	Asn	Met	Asn	Cys	Pro	Asn	Ile	Asp
				165					170					175	



Leu Arg Asp Asn Thr Arg Leu Trp Leu Pro Ala Arg Gly Ser Phe Ala  
 180 185 190  
 Ala Arg Lys Asn Cys Asp Ile Ile Ile Lys Asn Lys Glu Glu  
 195 200 205

<210> 5653  
 <211> 74  
 <212> PRT  
 <213> B.fragilis

<400> 5653  
 Pro Lys Lys Lys Glu Gly Lys Pro Met Phe Lys Asp Ile Ile Glu Leu  
 1 5 10 15  
 Asp Lys Gln Val Val Asp Arg Ile Val Asp Lys Val His Glu Asn Asn  
 20 25 30  
 Leu Glu Ile Glu Met Glu Met Gly Val Val Lys Asp Gly Met Val Lys  
 35 40 45  
 Val Leu Phe Leu Tyr Lys Asp Pro Glu Leu Leu Gln Ser Val Ile Asn  
 50 55 60  
 Glu Ser Val Thr Glu Glu Tyr Asp Leu Pro  
 65 70

<210> 5654  
 <211> 228  
 <212> PRT  
 <213> B.fragilis

<400> 5654  
 Thr Glu Lys Asn Asp Thr Met Ser Asn Ile Pro Val Ile Phe Arg Phe  
 1 5 10 15  
 Leu Lys Asp Leu Thr Ala Asn Asn Asn Arg Glu Trp Phe Asn Glu His  
 20 25 30  
 Arg Glu Glu Tyr Glu Ile Ala Arg Leu Glu Phe Glu Asn Phe Leu Ser  
 35 40 45  
 Thr Val Ile Ala Arg Ile Ser Leu Phe Asp Glu Ser Ile Arg Gly Ile  
 50 55 60  
 Gln Pro Lys Glu Cys Thr Tyr Arg Ile Tyr Arg Asp Thr Arg Phe Ser  
 65 70 75 80  
 Ser Asp Lys Thr Pro Tyr Lys Asn His Phe Gly Gly Tyr Ile Asn Ala  
 85 90 95  
 Lys Gly Lys Lys Ser Tyr His Ser Gly Tyr Tyr Ile His Ile Gln Pro  
 100 105 110  
 Glu Gly Cys Met Leu Ala Gly Gly Ser Leu Cys Leu Pro Ser Asn Ile  
 115 120 125  
 Leu Lys Ala Leu Arg Gln Ser Ile Tyr Asp Asn Ile Asp Glu Tyr Arg  
 130 135 140  
 Ser Ile Val Glu Asp Pro Glu Phe Gln Gln Phe Phe Pro Ile Val Gly  
 145 150 155 160  
 Glu Asp Phe Leu Lys Thr Ala Pro Lys Gly Phe Pro Lys Asp Phe Lys  
 165 170 175  
 Tyr Ile Asp Tyr Leu Lys Pro Lys Glu Phe Thr Cys Ala Tyr Ser Val  
 180 185 190  
 Pro Asp Ser Phe Phe Leu Thr Pro Asp Ile Leu Asp Lys Ile Glu Glu  
 195 200 205  
 Val Phe Arg Gln Phe Lys Arg Phe Ala Asp Phe Thr Asn Phe Thr Ile  
 210 215 220  
 Asp Asp Phe Glu  
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<210> 5655  
 <211> 113  
 <212> PRT  
 <213> B.fragilis

<400> 5655

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Leu Arg Glu Asn Met Lys Arg Phe Ala Ala His Tyr Leu Phe Val Pro
1      5      10      15
Gly Ser Gly Phe Leu Lys Gln Tyr Ala Ile Glu Ile Glu Gly Gly Tyr
      20      25      30
Ile Cys His Ile Phe Pro Phe Ser Glu Glu Ile Glu Ser Val Glu Trp
      35      40      45
Phe Pro Gly Val Ile Leu Leu Thr Pro Gln Glu Glu Ser Asp Ile Asn
      50      55      60
Thr Leu Phe Asn Phe Thr Asn Ile Glu Lys Gln Ser Ile Tyr Ile Pro
      65      70      75      80
Lys Val Thr Ile Asp Met Lys Trp Arg Ala Tyr Leu Leu Tyr Pro Phe
      85      90      95
Asn Phe Val Thr Met Gln Pro Val Ala Glu Thr Leu His Arg Gln Leu
      100      105      110
Gln

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<210> 5656  
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<400> 5656

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Arg Glu Arg Lys Asp Met Glu Ile Ile Lys Thr Gly Leu Ala Ala Phe
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Gly Met Ser Gly Gln Val Phe His Ala Pro Phe Ile Ser Thr Asn Pro
      20      25      30
His Phe Glu Leu Tyr Lys Ile Val Glu Arg Ser Lys Glu Leu Ser Lys
      35      40      45
Glu Arg Tyr Pro Gln Ala Ser Ile Val Arg Ser Phe Lys Glu Leu Thr
      50      55      60
Glu Asp Pro Glu Ile Asp Leu Ile Val Val Asn Thr Pro Asp Asn Thr
      65      70      75      80
His Tyr Glu Tyr Ala Gly Met Ala Leu Glu Ala Gly Lys Asn Val Val
      85      90      95
Val Glu Lys Pro Phe Thr Ser Thr Thr Lys Gln Gly Glu Glu Leu Ile
      100      105      110
Ala Leu Ala Lys Lys Lys Gly Leu Met Leu Ser Val Tyr Gln Asn Arg
      115      120      125
Arg Trp Asp Ala Asp Phe Leu Thr Val Arg Asp Ile Leu Ala Lys Ser
      130      135      140
Leu Leu Gly Arg Leu Val Glu Tyr Glu Ser Thr Phe Ala Arg Tyr Arg
      145      150      155      160
Asn Phe Ile Lys Pro Asn Thr Trp Lys Glu Thr Gly Glu Ser Gly Gly
      165      170      175
Gly Leu Thr Tyr Asn Leu Gly Ser His Leu Ile Asp Gln Ala Ile Gln
      180      185      190
Leu Phe Gly Met Pro Glu Ala Val Phe Ala Asp Leu Gly Ile Leu Arg
      195      200      205
Glu Gly Gly Lys Val Asp Asp Tyr Phe Ile Ile His Leu Leu His Pro
      210      215      220
Ser Leu Ala Pro Asn Val Lys Ile Thr Leu Lys Ala Ser Tyr Leu Met
      225      230      235      240

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Arg Glu Ala Glu Pro Arg Phe Ala Leu His Gly Thr Leu Gly Ser Tyr  
 245 250 255  
 Val Lys Tyr Gly Val Asp Lys Gln Glu Ala Ala Leu Leu Ala Gly Glu  
 260 265 270  
 Ile Pro Glu Arg Pro Asn Trp Gly Glu Glu Ser Glu Gln Glu Trp Gly  
 275 280 285  
 Leu Leu His Thr Glu Ile Asn Gly Lys Glu Ile Cys Arg Lys Tyr Pro  
 290 295 300  
 Gly Ile Ala Gly Asn Tyr Gly Gly Phe Tyr Gln Asn Ile Tyr Glu His  
 305 310 315 320  
 Leu Cys Leu Gly Gln Pro Leu Glu Thr His Ala Gln Asp Ile Leu Asn  
 325 330 335  
 Val Ile Arg Ile Ile Glu Ala Ala Tyr Gln Ser His Arg Asp Asn Lys  
 340 345 350  
 Ile Val Asn Leu Lys  
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 <211> 181  
 <212> PRT  
 <213> B.fragilis

<400> 5657  
 Ile Ile Asn Leu Asn Met Thr Ala Lys Phe Ile Ile Met Val Leu Val  
 1 5 10 15  
 Leu Ala Tyr Ile Met Val Ile Ile Ala Ile Ser Ile Tyr Leu Ile Lys  
 20 25 30  
 Ile Ile Cys Thr Arg Tyr Asn Gln Asn Ser Asp Gln Ile Leu Pro Pro  
 35 40 45  
 Pro Asn Met His Ser Ile Gln Glu Ser Ala Ser Met His Leu Val Arg  
 50 55 60  
 Ile Gly Gln Leu Pro His Pro Gly Pro Gly Tyr Cys Tyr Tyr Glu Leu  
 65 70 75 80  
 Gly Gly Met Arg Tyr Gln Ala Leu Thr Gly Phe Asp Ile Gly Val His  
 85 90 95  
 Glu Gly Tyr Ala Lys Ala Glu Leu Asn Asn Arg Tyr Asp Lys Tyr Ala  
 100 105 110  
 Val Gly Val Tyr Arg Glu Gly Asp His Lys Leu Met Gly Tyr Val Arg  
 115 120 125  
 Arg Glu Gln Asn Arg Glu Leu Tyr Glu Phe Met Leu Asn Asn Asn Cys  
 130 135 140  
 Ile Ala Lys Ala Lys Phe Arg Ile Trp Ile His Gln Gly Glu Ile Tyr  
 145 150 155 160  
 Gly Ala Ala Tyr Ile Lys Glu Glu Trp Lys Ser Ser Leu Gly Phe Lys  
 165 170 175  
 Ser Asp Ile Lys Ile  
 180

<210> 5658  
 <211> 174  
 <212> PRT  
 <213> B.fragilis

<400> 5658  
 Lys Leu Ile Glu Met Leu Asn Glu Lys Arg Thr Gln Arg Ile Met Lys  
 1 5 10 15  
 Ser Lys Phe Leu Ile Phe Leu Ser Ala Val Ala Met Leu Leu Phe  
 20 25 30  
 Ser Asn Cys Gly Ser Lys Thr Thr Ser Asn Asp Gln Ala Thr Thr Glu

35	40	45
Val Lys Asp Thr Val Thr Ser Lys Glu Glu Ala Val Pro Asp Ser Val		
50	55	60
Ser Ile Leu Gly Asp Gln Val Tyr Asp Ile Val Asn Thr Ala Pro Glu		
65	70	75
Phe Pro Gly Gly Met Lys Ala Cys Leu Glu Phe Leu Tyr Lys Asn Ile		
85	90	95
Thr Tyr Pro Ala Gln Ala Ile Glu Ser Lys Gln Glu Gly Gln Val Val		
100	105	110
Ile Gln Phe Val Val Thr Lys Asn Gly Lys Ile Ile Asp Pro Lys Val		
115	120	125
Val Lys Ser Val Ser Pro Ser Leu Asp Ala Glu Ala Ile Arg Ile Ile		
130	135	140
Asn Leu Met Pro Asp Trp Thr Pro Gly Lys Gln Lys Asn Gly Gln Glu		
145	150	155
Val Asn Ser Arg Phe Thr Leu Pro Val Arg Phe Thr Leu Lys		
165	170	

&lt;210&gt; 5659

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5659

Thr Met Tyr Asp Ile Val Ala Gln Arg Leu Arg Leu Phe Leu Ala Lys		
1	5	10
Lys Asp Ile Thr Cys Lys Lys Leu Ser Ala Met Ile Phe Met Ser Glu		
20	25	30
Ala Thr Leu Lys Gly Lys Leu Asn Gly Thr Arg Thr Leu Asp Leu Asn		
35	40	45
Thr Ile Ile Ser Ile Ala Ile Arg Leu Glu Asp Leu Ser Val Glu Trp		
50	55	60
Leu Leu Arg Gly Glu Gly Asp Met Phe Lys Ser Ser Ser Gly Val Ser		
65	70	75
Ile Leu Ser Ser Ser Val Pro Ile Phe Thr Gly Glu Thr Ser Phe Ile		
85	90	95
Tyr Ser Met Tyr Lys Glu Glu Arg Glu Glu Val Lys Thr Leu Leu Lys		
100	105	110
Gln Asn Gly Ile Leu Glu Glu Arg Ile Arg Gln Leu Glu Asp Asp Asn		
115	120	125
Arg Leu Leu Arg Asp Gln Val Val Thr Glu Leu Asn Leu Asn Thr Lys		
130	135	140
Leu		
145		

&lt;210&gt; 5660

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5660

Lys Met His Asp Ile Val Thr Gln Arg Leu Asn Gln Phe Leu Val Glu		
1	5	10
Lys Asn Ile Thr Tyr Lys Glu Leu Ser Gly Met Ile Leu Met Ser Glu		
20	25	30
Thr Ser Leu Cys Arg Lys Leu Thr Gly Ser Arg Ser Leu Asp Leu His		
35	40	45
Thr Leu Ile Ser Ile Val Ala Cys Leu Pro Asp Val Ser Ser Glu Trp		
50	55	60

Leu Leu Arg Gly Lys Gly Arg Val Cys Asn Ser Ser Ser Ser Ile Ser  
 65 70 75 80  
 Ser Asp Val Leu Val Glu Glu Leu Lys Met Glu Asn Asn Leu Leu Lys  
 85 90 95  
 Arg Lys Ile Gln Val Leu Gln Glu Leu Leu Glu Phe Lys Met Glu Lys  
 100 105 110  
 Ile Arg Ala Glu Asn Gly Asn Ile Lys Lys  
 115 120

<210> 5661

<211> 303

<212> PRT

<213> B.fragilis

<400> 5661

Gln Lys Ser Asp His Tyr Val Ser Ser Leu Leu Tyr Ser Val Phe Ile  
 1 5 10 15  
 Tyr His Met Val Arg Lys Ser Ser Ile Asn Lys Tyr Glu Leu Asp Val  
 20 25 30  
 Arg Lys Gly Leu Gln Glu Leu Phe Asp Lys Cys Arg His Asn Met Lys  
 35 40 45  
 His Ser Gly Asp Leu Leu Leu Cys Gln Gln Asn Gly Phe Ile Asp Tyr  
 50 55 60  
 Lys Gly Arg Pro Cys Val Gly Leu Gly Asp Glu Gly Leu Asn Cys Met  
 65 70 75 80  
 Gln Gln Val Asn Phe Ile Ser Phe Asn Gly Ile Gly Asn Ile Thr Asp  
 85 90 95  
 Asp Asn Asp Tyr Tyr Lys Lys Glu Gly Asn Asn Phe Phe Tyr Gly Asn  
 100 105 110  
 Ser Glu Phe Glu Ala Asp Ile Met Arg Gln His Ile Thr Tyr Met Asn  
 115 120 125  
 Ile Trp Glu Asn Ser Tyr Phe Leu Arg Val Phe Thr Gln Val Val Asn  
 130 135 140  
 Val Leu Asn Gly Leu Asn Tyr Asn Trp Asn Leu Thr Phe Lys Asn Leu  
 145 150 155 160  
 Lys Pro Asn Gln Lys Ser Glu Gln Ile Arg Glu Gly Ile Ile Lys Leu  
 165 170 175  
 Leu Asp Leu Ser Pro Asn Phe Gln Arg Ile Leu Lys Asp Ala Tyr Val  
 180 185 190  
 Gly Gln Ile Arg Asn Ala Val Ala His Thr Gln Tyr His Cys Ile Gln  
 195 200 205  
 Gly Gly Ile Leu Tyr Asp Asn Tyr Ser Pro Ser Ser Lys Tyr Ser Ile  
 210 215 220  
 Leu Gln Gly Leu Ser Tyr Glu Glu Trp Glu Lys Lys Tyr Val Tyr Ser  
 225 230 235 240  
 Phe Phe Ile Phe Ile Gly Ile Phe Gln Met Leu Lys Gln Ile Thr Asn  
 245 250 255  
 Glu Phe Tyr Leu Pro Cys Ser Gln Leu Thr Phe Ala Lys Gly Val Pro  
 260 265 270  
 Ile Gln Ile Pro Leu Ser Asp Asn Lys Gly Tyr Ala Glu Thr Tyr Leu  
 275 280 285  
 Tyr Pro Asn Gln Lys Gly Asp Ile Trp Arg Phe Thr Arg Ile Ile  
 290 295 300

<210> 5662

<211> 70

<212> PRT

<213> B.fragilis

&lt;400&gt; 5662

Ala	Tyr	Arg	Leu	Asn	Glu	Lys	Gln	Leu	Ser	Met	Tyr	Ile	His	His	Leu
1				5					10					15	
Met	Val	Lys	Asp	His	Lys	Arg	Lys	Tyr	Tyr	Leu	Ser	Tyr	Glu	Lys	
		20						25				30			
Arg	Phe	Ile	Phe	Ile	Ile	Asn	Leu	Val	Ser	Ala	Lys	Leu	Gln	Asn	Ser
		35					40					45			
Asn	Gly	Leu	Lys	Lys	Lys	Lys	Gln	Ser	Asn	Ser	Ser	Ala	Leu	Ile	Cys
	50					55					60				
Phe	Tyr	Arg	Asn	Met	Ala										
65					70										

&lt;210&gt; 5663

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5663

Arg	Trp	Arg	Glu	Thr	Ser	Val	Asn	Asn	Phe	Ser	Ser	Leu	Gln	Ser	Cys
1				5					10					15	
Phe	Ile	Asn	Val	Asn	Glu	Ile	Lys	Val	Arg	Phe	Gly	Gly	Ala	Pro	Gly
		20						25					30		
Leu	Val	Met	Thr	Lys	Ser	Trp	Arg	Asp	Gly	Tyr	Arg	Pro	Cys	Glu	Asp
		35					40					45			
Ala	Met	Ser	Leu	Lys	Glu	Ser	Leu	Ala	Ser	Ile	Gly	Met	Thr	Thr	Val
	50					55					60				
Lys	Val	Pro	Phe	Gly	Glu	Ser	Lys	Phe	Asp	Thr	Pro	Phe	Ser	Asn	Ser
65					70				75						80
Ser															

&lt;210&gt; 5664

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5664

Ser	Lys	Leu	Phe	Ala	Arg	Leu	Leu	Thr	Leu	Ile	His	Leu	Lys	Val	Gly
1				5					10					15	
Ser	Ser	Thr	Pro	Phe	Ser	Leu	Leu	Leu	Lys	Gly	Val	Lys	Leu	Pro	Thr
		20						25					30		
Met	Val	Cys	Tyr	Ala	Ser	Gly	Leu	Pro	Asp	Ser	Gln	Glu	Val	His	Val
		35					40					45			
Ser	Gln	Lys	Asp	Val	Tyr	Ala	Ala	Phe	Gly	Arg	Tyr	Leu	Leu	Arg	Phe
	50					55					60				
Ala	Phe	Asn	Val	Glu											
65															

&lt;210&gt; 5665

&lt;211&gt; 71

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5665

Tyr	Lys	Met	Glu	Leu	Glu	Thr	Ile	Gly	Glu	Asn	Ala	Gly	Lys	Val	Trp
1				5					10					15	
Arg	Thr	Leu	Asn	Glu	Met	Arg	Gly	Glu	Ile	Ser	Ile	Gln	Glu	Leu	Ser
		20						25					30		
Arg	Lys	Ile	Asn	Leu	Ser	Ala	Glu	Asp	Val	Ala	Leu	Ala	Val	Gly	Trp

35                      40                      45  
 Leu Ala Arg Glu Asn Asn Ile Phe Ile Gln Arg His Asn Tyr Leu Leu  
     50                      55                      60  
 Tyr Val Ser His Asp Ala Phe  
 65                      70

<210> 5666  
 <211> 268  
 <212> PRT  
 <213> B.fragilis

<400> 5666  
 Met Lys Met Glu Asn Ser Val Leu Thr Gly Lys Pro Tyr Asn Ile Gly  
 1                      5                      10                      15  
 Tyr Ala Leu Ser Gly Gly Phe Ile Lys Gly Phe Ala His Leu Gly Val  
     20                      25                      30  
 Ile Gln Ala Leu Leu Glu His Asp Ile Lys Pro Asp Ile Ile Ser Gly  
     35                      40                      45  
 Val Ser Ala Gly Ala Leu Ala Gly Val Phe Tyr Ala Asp Gly Asn Glu  
     50                      55                      60  
 Pro Tyr Arg Val Leu Asp Tyr Phe Ser Gly His Lys Phe Gln Asp Leu  
 65                      70                      75                      80  
 Thr Lys Leu Val Ile Pro Lys Val Gly Leu Phe Ala Leu Gly Glu Phe  
     85                      90                      95  
 Ile Asp Phe Leu Lys Ser Asn Leu Lys Ala Gln Lys Leu Glu Asp Leu  
     100                      105                      110  
 Lys Leu Pro Leu Ile Ile Thr Ala Thr Asp Leu Asp His Gly Arg Ser  
     115                      120                      125  
 Met His Phe His Lys Gly Asn Ile Ala Glu Arg Val Ala Ala Ser Cys  
     130                      135                      140  
 Cys Met Pro Val Leu Phe Thr Pro Val Lys Ile Gly Asn Thr His Tyr  
 145                      150                      155                      160  
 Val Asp Gly Gly Leu Leu Met Asn Leu Pro Val Ser Thr Ile Arg Asn  
     165                      170                      175  
 Glu Cys Glu Lys Val Val Ala Val Asn Val Ser Pro Leu Met Ala Glu  
     180                      185                      190  
 Lys Tyr Lys Met Asn Ile Val Ser Ile Ala Met Arg Ser Tyr His Phe  
     195                      200                      205  
 Met Phe Arg Ala Asn Thr Phe Pro Glu Arg Asp Asn Cys Asp Leu Leu  
     210                      215                      220  
 Ile Glu Pro Tyr Asn Leu Glu Gly Tyr Ser Asn Thr Glu Leu Glu Lys  
 225                      230                      235                      240  
 Ala Glu Glu Ile Phe Glu Gln Gly Tyr Asn Thr Ala Ser Glu Val Leu  
     245                      250                      255  
 Asp Gln Leu Ile Glu Glu Lys Gly Lys Ile Trp Lys  
     260                      265

<210> 5667  
 <211> 406  
 <212> PRT  
 <213> B.fragilis

<400> 5667  
 Arg Asp Ala Asp Ser Leu Gln Leu Phe Cys Gln His Phe Cys Tyr Asn  
 1                      5                      10                      15  
 Trp Ile Ile Asn Leu Phe Tyr Pro Met Lys Val His Glu Tyr Gln Ala  
     20                      25                      30  
 Lys Glu Ile Phe Ser Thr Tyr Gly Ile Pro Val Glu Arg His Ala Leu  
     35                      40                      45

Cys His Thr Ala Asp Gly Ala Val Ala Ala Tyr His Arg Met Gly Val  
 50 55 60  
 Asn Arg Val Ala Ile Lys Ala Gln Val Leu Thr Gly Gly Arg Gly Lys  
 65 70 75 80  
 Ala Gly Gly Val Lys Leu Ala Asn Asn Asp Arg Asp Val Tyr Gln Tyr  
 85 90 95  
 Ala Gln Thr Ile Leu Glu Met Thr Ile Lys Gly Tyr Pro Val Thr Lys  
 100 105 110  
 Ile Leu Leu Ser Glu Ala Val Asn Ile Ala Ala Glu Tyr Tyr Ile Ser  
 115 120 125  
 Phe Thr Ile Asp Arg Asn Thr Arg Ser Val Thr Leu Ile Met Ser Ala  
 130 135 140  
 Ala Gly Gly Met Asp Ile Glu Glu Val Ala Arg Gln Ser Pro Glu Lys  
 145 150 155 160  
 Ile Ile Arg Cys Ser Ile Asp Pro Leu Ile Gly Val Pro Asp Tyr Leu  
 165 170 175  
 Ala His Lys Phe Ala Phe Ser Leu Phe Glu Gln Ala Glu Gln Ala Asn  
 180 185 190  
 Arg Met Ala Thr Ile Ile Gln Asp Leu Tyr Lys Ala Phe Ile Glu Lys  
 195 200 205  
 Asp Ala Ser Leu Ala Glu Ile Asn Pro Leu Val Leu Thr Pro Val Gly  
 210 215 220  
 Thr Leu Leu Ala Ile Asp Ala Lys Met Val Phe Asp Asp Asn Ala Leu  
 225 230 235 240  
 Tyr Arg His Pro Asp Leu Gln Lys Leu Ser Glu Pro Thr Glu Asp Glu  
 245 250 255  
 Lys Leu Glu Ala Ile Ala Lys Glu Arg Gly Phe Ser Tyr Val Arg Met  
 260 265 270  
 Asp Gly Glu Ile Gly Cys Met Val Asn Gly Ala Gly Leu Ala Met Thr  
 275 280 285  
 Thr Met Asp Met Ile Lys Leu Tyr Gly Gly Asn Pro Ala Asn Phe Leu  
 290 295 300  
 Asp Ile Gly Gly Ser Ser Asn Pro Val Lys Val Ile Glu Ala Met Arg  
 305 310 315 320  
 Leu Leu Leu Asp Asp Lys Lys Val Lys Val Val Phe Ile Asn Ile Phe  
 325 330 335  
 Gly Gly Ile Thr Arg Cys Asp Asp Val Ala Ile Gly Leu Leu Gln Ala  
 340 345 350  
 Phe Glu Gln Ile Gln Thr Asp Ile Pro Ile Ile Val Arg Leu Thr Gly  
 355 360 365  
 Thr Asn Gly Asn Met Gly Arg Glu Leu Leu Arg Lys Asn Asn Arg Phe  
 370 375 380  
 Gln Val Ala Gln Thr Met Glu Glu Ala Thr Lys Met Ala Ile Glu Ser  
 385 390 395 400  
 Leu Lys Lys Glu Ser Ile  
 405

<210> 5668  
 <211> 480  
 <212> PRT  
 <213> B.fragilis

<400> 5668  
 His Gln Ser Leu Phe Leu Met Lys Lys Lys Gln Pro Glu Pro Gln Leu  
 1 5 10 15  
 Phe Gln Lys Gly Tyr Glu Thr Tyr Ala Val Thr Lys Gly Gly Lys Gly  
 20 25 30  
 Ile Ile Lys Phe Ser Asp Asn Ser Asp Ile Thr Thr Asp Arg Glu Thr  
 35 40 45



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Ser Thr Val Glu Val Val Pro Lys Gly Lys Glu Ala Pro Ile Lys Phe
50          55          60
Val Pro Arg Gly Arg Asn Asn Met Met Tyr Asp Ile Met Lys Lys
65          70          75          80
Ile Gly Ala Asn Val Thr Val Gly Ser Asn Val Glu Phe Lys Asn Lys
85          90          95
Val Val Tyr Gly Asp Ser Val Leu Val Tyr Arg Lys Tyr Arg Asp Lys
100        105        110
Glu Thr Arg Lys Ile Ile Lys Glu Glu Val Leu Pro Glu Glu Tyr Pro
115        120        125
Asp Ile Phe Asp Phe Ile Glu Asn Asn Asp Ile Pro Phe Ile Arg Met
130        135        140
Glu Ile Ala Asn Asp Leu Val Ile Phe Tyr Asp Ala Tyr Val Glu Tyr
145        150        155        160
Ile Phe Asn Gln Asp Thr Gln Pro Arg Leu Val Gln Val Lys Ala Lys
165        170        175
Glu Ala Thr Cys Ser Arg Ile Ser Val Ile Asp Glu Arg Thr Gly Lys
180        185        190
Ser Glu Tyr His Gly Tyr Ser Ala Lys Trp His Glu Gly Met Pro Asp
195        200        205
Asp Val Ile Ala Thr Pro Leu Asp Arg Gln Ala Pro Leu Arg Asp
210        215        220
Leu Lys Thr Arg Met Gly Leu Phe Pro Asn Glu Lys Gly Ile Lys Glu
225        230        235        240
Ile Val Lys Asp Arg Arg Phe Ile His Asn Ile Arg Ile Ala Thr Pro
245        250        255
Gly Arg Phe Tyr Tyr Ser Lys Pro Tyr Trp Trp Ser Val Phe Val Ser
260        265        270
Gly Trp Tyr Asp Phe Gly Asn Ala Ile Pro Ile Phe Lys Lys Ala Leu
275        280        285
Ile Lys Asn Gln Met Ala Leu Arg Tyr Ile Val Tyr Ile Lys Glu Asp
290        295        300
Phe Trp Gly Lys Leu Tyr Ala Asp Glu Lys Ile Thr Asn Glu Ala Asp
305        310        315        320
Gln Ala Val Arg Arg Glu Thr Phe Leu Gln Asp Met Asn Asp Phe Leu
325        330        335
Ala Gly Glu Glu Asn Ala Gly Lys Gly Phe Val Ser His Phe Arg Tyr
340        345        350
Asp Arg Val Lys Gly Phe Glu Asp Lys Asp Ile Ile Ile Asn Thr Leu
355        360        365
Asp Ser Phe Phe Lys Gly Gly Glu Tyr Ile Glu Asp Ser Glu Glu Val
370        375        380
Ser Asn Thr Ile Cys Tyr Gly Met Asn Val His Pro Ser Ile Ile Gly
385        390        395        400
Ala Ala Pro Gly Lys Gly Lys Ser Ile Asn Gly Thr Glu Ala Arg Glu
405        410        415
Leu Phe Ile Ile Glu Gln Ala Leu Met Lys Met Phe Gln Glu Ala Thr
420        425        430
Leu Thr Pro Leu Tyr Phe Ala Lys Ala Val Asn Gly Trp Pro Lys Asp
435        440        445
Ile Tyr Phe Ser Val Thr Asn Cys Gln Leu Thr Thr Leu Asp Lys Gly
450        455        460
Thr Gly Ala Thr Lys Asn Thr Gly Leu Thr Ser Glu Thr Glu Glu Lys
465        470        475        480

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&lt;210&gt; 5669

&lt;211&gt; 214

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5669

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Ser Asn Ile Leu Gly Gly Leu Thr Met Gly Tyr Tyr Lys Arg Leu Ser
1           5           10           15
Thr Tyr Arg Ala Glu Val Lys Arg Tyr Asn Ala Ser Arg Arg Lys Ala
20           25           30
Thr Gln Leu Thr Asn Ala Pro Ala Ser Gly Leu Ile Arg Leu Glu Thr
35           40           45
Val Ser Glu Thr Glu Arg Phe Ser Met Ala Gln Asp Ala Asp Arg Leu
50           55           60
Thr Ala Tyr Asn Lys Ala Val Glu Lys Trp Gln Asp Ser Val Ala Arg
65           70           75           80
Gln Leu Arg Ala Gly Ile Ala Gly Arg Ser Met Arg Ile Ala Arg Glu
85           90           95
Leu Glu Pro Arg Ala Tyr Thr Asp Lys Tyr Gly Ile Ile Asn Arg Leu
100          105          110
Gly Phe Ser Phe Pro Arg His Gly Ile Tyr Ile His Lys Gly Ala Gly
115          120          125
Glu Gly Gln Gly Gly Phe Ile Gly Ser Lys Trp Asn Tyr Leu Lys Lys
130          135          140
Ile Asn Gly Val Glu Ile Asp Thr Gly Ile Val Arg His Thr Asn Leu
145          150          155          160
Lys Ser Leu Gly Arg Gln Asn Glu Gly Asn Arg Arg Ala Tyr Glu Trp
165          170          175
Phe Asp Pro Val Ile Arg Asn Arg Ile Asn Glu Leu Ala Asp Ile Val
180          185          190
Thr Asp Tyr Phe Asp Thr Met Leu Ile Asp Ala Thr Arg Ile Tyr Ile
195          200          205
Asp Lys Arg Asn Ser Leu
210

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&lt;210&gt; 5670

&lt;211&gt; 733

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5670

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His Met Ser Leu Lys Ile Lys Asn Gln Leu Gly Ile Phe Asp Leu Gln
1           5           10           15
Asn Asp Phe Ser Ile Glu Ile Glu Asp Thr Ser Pro Ile Tyr Asn Glu
20           25           30
Arg Gly Ser Gln Ser Val Pro Ala Thr Leu Pro Ala Ser Arg Asn Asn
35           40           45
Leu Ser Leu Ile Thr His Val His Arg Pro Asp Ser Thr Tyr Ser Pro
50           55           60
Ala Pro Asp Ala Arg Val Thr Val Ser Asp Gly Val Tyr Asn Arg Ile
65           70           75           80
Gly Lys Met Asn Ile Thr Gln Ala Ser Lys Ser Gly Gly Ile Val Ser
85           90           95
Asn Ile Gly Phe Asp Glu Ser Glu Leu Tyr Ser Glu Trp Asn Ala Val
100          105          110
Ser Leu Arg Ser Leu Ser Ala Pro Val Ile Arg Pro Glu Gly Gly Thr
115          120          125
Thr Gly Val Ile Ser Leu Leu Asn Ser Ile Met Asn Glu Thr Ile Val
130          135          140
Asp Asp Ala Leu Ser Ile Phe Pro Ile Cys Val Ser Ile Pro Ser His
145          150          155          160
Ala Thr Thr Val Asp Asp Thr Glu Thr Thr Thr Tyr Tyr Pro Glu Tyr
165          170          175

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Ile	Asn	Lys	Ile	Thr	Lys	Leu	Glu	Asn	Gly	Thr	Tyr	Ser	Leu	Gln	Gly	180	185	190
Ala	Ala	Arg	Gln	Glu	Thr	Phe	Leu	Ile	Asn	Asn	Glu	Pro	Val	Leu	Thr	195	200	205
Ser	Val	Pro	Glu	Gly	Tyr	Ala	Ile	Ser	Pro	Phe	Leu	Lys	Val	Ser	Trp	210	215	220
Ile	Leu	Asn	Phe	Ile	Phe	Val	Arg	Tyr	Gly	Tyr	Thr	Val	Leu	Glu	Asn	225	230	235
Pro	Phe	Ser	Thr	His	Arg	Gln	Leu	Ser	Arg	Leu	Val	Val	Leu	Asn	Asn	245	250	255
Met	Ala	Asp	Ser	Ile	Val	Lys	Gly	Phe	Ile	Asp	Tyr	Ser	Asp	Leu	Leu	260	265	270
Pro	Asp	Cys	Thr	Ile	Asn	Glu	Phe	Leu	Gln	Ala	Leu	Tyr	Cys	Arg	Phe	275	280	285
Gly	Met	Val	Tyr	Phe	Val	Asp	Gly	Lys	Asn	Lys	Thr	Val	Asn	Leu	Lys	290	295	300
Phe	Ile	Lys	Asp	Ile	Ile	Ser	Thr	Pro	Ala	Ser	Leu	Asn	Trp	Ser	Leu	305	310	315
Leu	Lys	Ser	Ala	Arg	Pro	Ala	Ile	Asn	Tyr	Ala	Ala	Ala	Gln	Gln	Leu	325	330	335
Lys	Leu	Ser	Ala	Ser	Thr	Asn	Ile	Ser	Gly	Pro	Tyr	Thr	Asn	Leu	Val	340	345	350
Ala	Thr	Pro	Thr	Ala	Asp	Ser	Leu	Asp	Lys	Phe	Leu	Lys	Thr	Phe	Gly	355	360	365
His	Val	Leu	Ser	Ser	Asn	Thr	Ala	Lys	Gly	Tyr	Leu	Thr	Tyr	Ser	Leu	370	375	380
Trp	Asp	Gly	Phe	Tyr	Tyr	Val	Arg	Asn	Asn	Leu	Thr	Gly	Val	Arg	Glu	385	390	395
Ala	Arg	Ser	Ser	Asp	Phe	Phe	Pro	Trp	Asp	Lys	Gly	Ala	Asn	Ile	Ser	405	410	415
Tyr	Met	Glu	Ile	Ser	Ser	Ile	Asp	Glu	Cys	Leu	Pro	Met	Lys	Gly	Ser	420	425	430
Tyr	Pro	Asp	Asp	Gln	Pro	Val	Cys	Pro	Ala	Tyr	Leu	Leu	Gly	Lys	Val	435	440	445
His	Lys	Tyr	Thr	Asn	Ile	Ser	Ser	Ala	Ser	Val	Glu	Leu	Ser	Glu	Glu	450	455	460
Gln	Asn	Thr	Gln	Thr	Pro	Leu	Cys	Phe	Cys	Phe	Ser	Met	Pro	Arg	Ala	465	470	475
Ser	Thr	Pro	Tyr	Pro	Tyr	Gly	Ser	Pro	Arg	Cys	Tyr	Thr	Pro	Gly	Gly	485	490	495
Glu	Ala	Ile	Ala	Ile	Asn	Gly	His	Thr	Phe	Asp	Ile	Ser	Met	Thr	Phe	500	505	510
Thr	Gly	Asp	Asn	Gly	Leu	Phe	Ser	Arg	Phe	Trp	Lys	Gly	Phe	Asp	Ala	515	520	525
Ile	Leu	Arg	His	Ser	Asn	His	Thr	Val	Glu	Val	Pro	Val	His	Leu	Asn	530	535	540
Pro	Ile	Gln	Leu	Leu	Asn	Ile	Asp	Phe	Ser	Gln	Thr	Ile	Asn	Ile	Asp	545	550	555
Gly	Gln	Arg	Leu	Leu	Leu	Asp	Thr	Val	Arg	Tyr	Thr	Leu	Pro	Lys	Leu	565	570	575
Leu	Ser	Arg	Pro	Ala	Thr	Ile	Arg	Leu	Arg	Thr	Leu	Arg	Leu	Leu	Ile	580	585	590
Pro	Val	Gly	Glu	Thr	Asp	Leu	Asp	Leu	Asp	Ala	Glu	Gln	Gly	Ile	Gln	595	600	605
Thr	Ile	Glu	Gln	Leu	Tyr	Lys	Trp	Ala	Phe	His	Asn	Asn	Arg	Glu	Asn	610	615	620
Ile	Val	Glu	Leu	Lys	Ile	Arg	Ala	Gln	Val	Glu	Glu	Trp	Lys	Lys	Ala	625	630	635
Ile	Thr	Pro	Pro	Ala	Gln	Trp	Leu	Gly	Val	Leu	Arg	Lys	Asn	Glu	Val			

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<210> 5671
<211> 73
<212> PRT
<213> B.fragilis
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<210> 5672
<211> 149
<212> PRT
<213> B.fragilis
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<210> 5673
<211> 79
<212> PRT
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&lt;213&gt; B.fragilis

&lt;400&gt; 5673

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Phe Glu Ile Cys Met Thr Tyr Asn Thr Gly Ile Tyr Leu Asn Ser Ile
1           5           10           15
Asn Phe Phe Glu Val Ile Pro Phe Gly Thr Asp Glu Ala Thr Leu Thr
          20           25           30
Phe Ala Gly Ala Leu Val Asp Val Asp Ser Met Ser Arg Glu Gly Glu
          35           40           45
Thr Lys Thr Val Asp Asn Thr Val Phe Val Gly Val Gly Pro Trp Leu
          50           55           60
Lys Phe Thr Gly Tyr Ser His Thr Ala Ala Gly Tyr Ser Gly Ser
65           70           75

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&lt;210&gt; 5674

&lt;211&gt; 221

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5674

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Leu Val Thr Cys Ile Thr Asp Ser Leu Thr Lys Met Lys Lys Leu Leu
1           5           10           15
Thr Lys Gly Gln Ile Ala Ile Leu Val Ile Phe Ser Val Leu Ile Ile
          20           25           30
Asp Gln Val Ile Lys Ile Trp Ile Lys Thr His Met Tyr Trp His Glu
          35           40           45
Ser Ile Arg Ile Thr Asp Trp Phe Tyr Ile Tyr Phe Thr Glu Asn Asn
          50           55           60
Gly Met Ala Phe Gly Met Glu Leu Phe Gly Lys Leu Phe Leu Thr Thr
65           70           75           80
Phe Arg Ile Val Ala Val Gly Leu Ile Gly Trp Tyr Leu Tyr Lys Ile
          85           90           95
Val Lys Arg Gly Leu Lys Thr Gly Tyr Ile Ile Cys Val Ser Leu Ile
          100          105          110
Leu Thr Gly Ala Leu Gly Asn Ile Ile Asp Ser Val Phe Tyr Gly Val
          115          120          125
Ile Phe Asn Glu Ser Thr His Ser Gln Ile Ala Ser Phe Met Pro Asp
          130          135          140
Gly Gly Gly Tyr Ser Thr Trp Phe Tyr Gly Lys Val Val Asp Met Phe
145          150          155          160
Tyr Phe Pro Ile Ile Asp Thr Asn Trp Pro Thr Trp Met Pro Phe Val
          165          170          175
Gly Gly Glu His Phe Ile Phe Phe Ser Pro Ile Phe Asn Phe Ala Asp
          180          185          190
Ala Ala Ile Ser Cys Gly Ile Ile Ala Leu Leu Leu Phe Tyr Ser Lys
          195          200          205
Tyr Leu Asn Asp Ser Tyr His His Ser Val Thr Lys Lys
210          215          220

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&lt;210&gt; 5675

&lt;211&gt; 334

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5675

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Pro Tyr His Cys Asn Lys Ile Ser Ala Met Ser Gln Lys Arg Ile Ile
1           5           10           15
Leu Ser Asp Ser Ser Leu Asn Arg Tyr Gly Tyr Arg Val Leu Thr Ala
          20           25           30

```

Gly Leu Leu Leu Glu Ala Phe Ile Asp Asn Pro Val Met Leu Tyr Gly  
 35 40 45  
 His Phe Arg Asp Glu Gly Ser Pro Leu Trp Cys Asp Tyr Lys Ala Ile  
 50 55 60  
 Gly Tyr Trp Asp Asp Ile Lys Ile Glu Asp Asp Val Leu Ser Ala Ile  
 65 70 75 80  
 Pro Val Phe Asp Lys Val Asp Asp Leu Ser Lys Thr Ile Ala Ala Lys  
 85 90 95  
 Tyr Glu Ala Gly Thr Leu Arg Ala Ala Ser Ile Gly Ile Arg Ile Leu  
 100 105 110  
 Ala Thr Ser Ser Glu Lys Glu Tyr Leu Leu Pro Gly Gln Thr Arg Glu  
 115 120 125  
 Thr Val Thr Lys Ala Glu Val Met Glu Ala Ser Ile Val Asp Ile Pro  
 130 135 140  
 Ala Asn Ser His Ala Val Arg Leu Tyr Asp Arg Ser Ser Ser Val Leu  
 145 150 155 160  
 Leu Ala Ala Gly Met Asp Thr Asn Ile Val Pro Ala Leu Thr Ile Pro  
 165 170 175  
 Lys Glu Lys Ala Met Asn Tyr Lys Pro Ser Trp Thr Gly Phe Leu Ser  
 180 185 190  
 Phe Leu Gly Ile Ser Lys Asp Lys Ala Glu Thr Thr Glu Leu Ser Ala  
 195 200 205  
 Glu Asn Leu Asp Ser Ile His Ala Glu Met Glu Arg Leu Lys Thr Glu  
 210 215 220  
 Asn Ala Thr Leu Val Gln Ala Lys Thr Asp Ile Glu Glu Lys Leu Asn  
 225 230 235 240  
 Ser Ala Asn Ala Lys Ile Thr Glu Leu Asn Gly Ser Thr Ser Gly Lys  
 245 250 255  
 Asp Asn Glu Ile Ser Thr Leu Lys Asn Ser Ile Thr Glu Lys Asp Ser  
 260 265 270  
 Lys Ile Thr Gln Leu Glu Glu Gln Val Lys Asn Leu Lys Asn Gly Pro  
 275 280 285  
 Thr Pro Gly His Ala Gly Leu Thr Pro Glu Gln Glu Pro Glu Gly Ser  
 290 295 300  
 Gly Thr Gln Glu Glu Leu Ser Ala Phe Cys Asp Gln Asn Ala Gly Asn  
 305 310 315 320  
 Tyr Gln Ala Ile Thr Glu Lys Leu Lys Ala Glu Gly Leu Tyr  
 325 330

&lt;210&gt; 5676

&lt;211&gt; 468

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5676

Leu Lys Glu Cys Thr Met Lys Lys Ser Thr Lys Phe Ile Ile Ala Leu  
 1 5 10 15  
 Leu Val Thr Val Gly Ala Leu Ala Ile Thr Tyr Arg Val Val Asn Gln  
 20 25 30  
 Ala Pro Ser Lys Asp Leu Ala Ala Asp Ala Gln Met Gln Glu Ile Ile  
 35 40 45  
 Thr Ser Gly Gly Cys Leu Gln Cys His Ser Gly Ser Pro Asp Leu Pro  
 50 55 60  
 Phe Tyr Ala Asn Trp Pro Val Ala Ser Gly Met Val Gln Lys Asp Val  
 65 70 75 80  
 Thr Gln Gly Tyr Arg Ala Phe Asp Met Thr Glu Met Ala Glu Ala Leu  
 85 90 95  
 Lys Ala Gly Lys Pro Val Gly Lys Val Ala Leu Ala Lys Val Glu Lys  
 100 105 110

Val Ile Met Asp Gly Thr Met Pro Lys His Ala Tyr Tyr Met Val His  
 115 120 125  
 Trp Gly Ser Ser Val Thr Asp Ala Lys Lys Glu Met Ala Met Ala Trp  
 130 135 140  
 Val Lys Gln His Arg Leu Ala His Tyr Ala Asn Gly Leu Ala Ala Ala  
 145 150 155 160  
 Glu Phe Ala Asn Glu Pro Ile Arg Pro Ile Ala Asp Ser Ile Pro Val  
 165 170 175  
 Asp Met Arg Lys Val Ile Leu Gly Asp Met Leu Tyr His Asp Thr Arg  
 180 185 190  
 Leu Ser Ala Asp Asn Thr Val Ser Cys Ala Ser Cys His Gly Leu Asn  
 195 200 205  
 Thr Gly Gly Val Asp Asn Lys Gln Tyr Ser Glu Gly Val Gly Gly Gln  
 210 215 220  
 Phe Gly Gly Val Asn Ala Pro Thr Val Tyr Asn Ala Ala Tyr Asn Phe  
 225 230 235 240  
 Val Gln Phe Trp Asp Gly Arg Ala Gly Thr Leu Ala Glu Gln Ala Ala  
 245 250 255  
 Gly Pro Pro Leu Asn Pro Val Glu Met Ala Cys Gln Ser Phe Asp Glu  
 260 265 270  
 Ile Ile Ala Lys Leu Glu Gln Asp Ala Asn Phe Thr Lys Ala Phe Leu  
 275 280 285  
 Ala Val Tyr Pro Asp Gly Tyr Ser Glu Gln Asn Ile Thr Asn Ala Ile  
 290 295 300  
 Glu Glu Phe Glu Lys Thr Leu Leu Thr Pro Asn Ser Arg Phe Asp Leu  
 305 310 315 320  
 Tyr Leu Lys Gly Glu Lys Thr Ala Ile Asn Asp Ile Glu Leu Ala Gly  
 325 330 335  
 Tyr Glu Leu Phe Lys Lys Tyr Asp Cys Ala Thr Cys His Val Gly Glu  
 340 345 350  
 Thr Leu Gly Gly Gln Ser Tyr Glu Leu Met Gly Val Lys Arg Asp Tyr  
 355 360 365  
 Phe Ala Asp Arg Gly Ile Glu Leu Thr Glu Glu Asp Asn Gly Arg Phe  
 370 375 380  
 Lys Gln Thr Arg Asn Glu Arg Asp Lys His Arg Phe Lys Val Pro Gly  
 385 390 395 400  
 Leu Arg Asn Ile Ala Leu Thr Ala Pro Tyr Phe His Asp Gly Ser Met  
 405 410 415  
 Lys Thr Met Lys Glu Ala Val Asp Tyr Met Ala Lys Tyr Gln Met Asp  
 420 425 430  
 Leu Asn Leu Pro Glu Asp Glu Leu Asn Lys Ile Val Ala Phe Leu Glu  
 435 440 445  
 Thr Leu Thr Gly Glu Tyr Lys Gly Lys Pro Leu Thr Asn Asp Asn Gln  
 450 455 460  
 Thr Lys Ala Leu  
 465

<210> 5677  
 <211> 63  
 <212> PRT  
 <213> B.fragilis

<400> 5677  
 Val Thr Thr Cys Ser Pro Pro Ala Pro Gly Glu Asp Leu Glu Thr Gly  
 1 5 10 15  
 Val Leu Lys Leu Thr Asp Ser Pro Ala Ile Gln Ser Phe Pro Lys Arg  
 20 25 30  
 Val Gly Val Val Glu Asp Val Met Leu Cys Ala Phe Ser Ala Thr Val  
 35 40 45

Thr Pro Ser Leu Ala Arg Val Ala Thr Thr Phe Thr Asp Phe Lys  
 50 55 60

<210> 5678

<211> 262

<212> PRT

<213> B.fragilis

<400> 5678

Ile Ser Ile Arg Phe Val Leu Tyr Ser Gln Ile Cys Arg Tyr Met Lys  
 1 5 10 15  
 Asn Ser Asp Leu Thr Thr Tyr Gly Glu Tyr Leu Glu Lys Leu Ser Pro  
 20 25 30  
 Lys His Gly Arg Glu Lys Val Phe Asn Asp Phe Leu Gln Ile Val Val  
 35 40 45  
 Cys Cys Leu Ser Met Gly Arg Lys Glu Glu Leu Tyr Phe Lys Thr Ile  
 50 55 60  
 Lys Pro Tyr Asp Lys Thr Glu Leu Asp Leu Phe Ser Gln Ala Phe Ala  
 65 70 75 80  
 Ala Leu Val Met Gln Met Asp Arg Gln Pro Leu Val Asp Pro Phe Gly  
 85 90 95  
 Asp Tyr Phe Gln Glu Phe Leu Ser Asn Ala Gln Asn Gly Gln Phe Phe  
 100 105 110  
 Thr Pro Phe Gly Val Cys Glu Leu Met Asn Gln Leu Ile Thr Ala Pro  
 115 120 125  
 Lys Val Asn Asp Gln Pro Lys Gln Gly Asp Arg Arg Val Leu Asp Pro  
 130 135 140  
 Ala Cys Gly Ser Gly Arg Leu Leu Leu Ser Ala Ala Gln Lys Asp Arg  
 145 150 155 160  
 Ala Leu Thr Phe Val Gly Ile Asp Ile Ser Tyr Thr Cys Cys Leu Met  
 165 170 175  
 Thr Ile Ile Asn Leu Cys Leu Asn Ser Leu Asn Gly Glu Val Leu His  
 180 185 190  
 Met Asn Ala Leu Thr Asp Gln Cys Trp His Arg Trp Leu Ile Ile Val  
 195 200 205  
 Asp Ser Val Thr Lys Ile Pro Thr Val Tyr Glu Val Glu Ala Gly Ile  
 210 215 220  
 Ile Asn Gln Pro Pro Ala Cys Ala Asp Asp Leu Lys Pro Leu Pro Val  
 225 230 235 240  
 Thr Gly Ile Ile Gln Pro Val Lys Asn Met Ile Pro Ala Asn Phe Val  
 245 250 255  
 Arg Tyr Thr Pro Lys Cys  
 260

<210> 5679

<211> 121

<212> PRT

<213> B.fragilis

<400> 5679

Arg Asn Leu Arg Pro Ile Arg Val Ser Glu Pro Ile Pro Leu Arg Thr  
 1 5 10 15  
 Ile Phe Thr Ser Ala Pro Thr Asn Ser His Arg Leu Ala Met Ser Phe  
 20 25 30  
 Met Lys Leu Ile Arg Val Ala Asn Ile Glu Phe Ala Ala Tyr Leu Val  
 35 40 45  
 Ile Ser Ala Glu Gly Ile Ser Met Asn Ile Thr Arg Lys Leu Phe Ser  
 50 55 60  
 Met Asn Gly Leu Tyr Ser Leu Val Ile Asn Phe Ser Ala Arg Ser Asp



65		70		75		80
Ser Thr Pro Ile	Thr Thr Arg Ser Gly	Leu Ile Lys Ser Leu Thr Ala				
	85	90				
Leu Pro Ser Phe	Arg Asn Ser Gly Leu Glu Ala Thr Ser Asn Ser Ile					
	100	105				
Leu Ala Pro Arg	Leu Ser Asn Ser Ser					
	115	120				

<210> 5680  
 <211> 300  
 <212> PRT  
 <213> B.fragilis

<400> 5680
Asn Gly Tyr Arg Ile Ile Lys Glu Arg Ile Asp Met Ser Ile Leu Ile
1 5 10 15
Asp Lys Ser Thr Arg Leu Leu Val Gln Gly Ile Thr Gly Arg Asp Gly
20 25 30
Leu Phe His Ala Lys Lys Met Ala Glu Tyr Gly Thr Asn Val Val Gly
35 40 45
Gly Thr Ser Pro Gly Lys Gly Gly Thr Met Ile Asp Asp Thr Phe Pro
50 55 60
Val Phe Asn Thr Met His Glu Ala Val Arg Arg Thr Gln Ala Asn Thr
65 70 75 80
Ser Val Ile Phe Val Pro Ala Arg Phe Ala Ala Asp Ala Ile Met Glu
85 90 95
Ala Ala Asp Ala Gly Ile Arg Leu Ile Ile Cys Ile Thr Glu Gly Ile
100 105 110
Pro Thr Leu Asp Val Ile Lys Ala Tyr Arg Phe Val Glu Leu Lys Gly
115 120 125
Ala Lys Leu Ile Gly Pro Asn Cys Pro Gly Leu Ile Ser Pro Gly Glu
130 135 140
Ser Leu Val Gly Ile Leu Pro Gly Gln Val Phe Thr Pro Gly Asn Ile
145 150 155 160
Gly Val Ile Ser Arg Ser Gly Thr Leu Thr Tyr Glu Ile Val Ser His
165 170 175
Leu Thr Ala Lys Gly Met Gly Gln Ser Thr Ala Ile Gly Met Gly Gly
180 185 190
Asp Pro Val Val Gly Leu Tyr Phe Arg Asp Leu Leu Gly Met Leu Gln
195 200 205
Asn Asp Pro Gln Thr Asp Ala Ile Val Met Ile Gly Glu Ile Gly Gly
210 215 220
Asn Ala Glu Glu Leu Ala Ala Thr Tyr Ile Arg Glu His Val Thr Lys
225 230 235 240
Pro Val Val Ala Phe Ile Ala Gly Arg Ser Ala Pro Pro Gly Lys Gln
245 250 255
Met Gly His Ala Gly Ala Ile Ile Ser Gly Ser Ser Gly Ser Ala Thr
260 265 270
Glu Lys Ile Ser Ala Leu Glu Ala Ala Gly Ile Arg Val Ala Gly Glu
275 280 285
Pro Ser Glu Ile Pro Asp Leu Leu Lys Gly Ser Phe
290 295 300

<210> 5681  
 <211> 586  
 <212> PRT  
 <213> B.fragilis

<400> 5681



465		470		475		480
Ile Ser Asn Gly Val	Phe Phe Asp Leu Met Tyr Ala Asn Glu Asn Gly					
	485		490		495	
Trp Arg Phe Asn Glu His Lys Gln Tyr Thr Phe Met Arg Lys Tyr Lys						
	500		505		510	
Asn Glu Leu Leu Phe Ile Val Val Asn Phe Asp Asn Gln Pro Val Asn						
	515		520		525	
Val Ala Ile Asn Val Pro Ser His Ala Phe Asp Phe Leu Gln Ile Pro						
	530		535		540	
Gln Phe Asp Ser Tyr Lys Ala Val Asp Leu Leu Thr Asp Lys Val Glu						
545		550		555		560
Glu Ile Ser Leu Leu Pro Tyr Lys Ala Thr Glu Ile Ala Leu Gly Ala						
	565		570		575	
Tyr Thr Gly Lys Ile Leu Lys Ile Lys Phe						
	580		585			

<210> 5682  
 <211> 64  
 <212> PRT  
 <213> B.fragilis

<400> 5682
Cys Asn Ile Arg Arg Phe His Asp Asp Phe Met Leu Asn Thr Leu Ser
1 5 10 15
Gln Phe Ile Thr Ser Asn Lys Arg Asp Gly Thr Arg Tyr Met Pro Phe
20 25 30
Ala Phe Ile Glu Leu Gly Val Ala Met Leu Ser Ser Ile Leu Asn Ser
35 40 45
Glu Val Val Ile Glu Ile Asn Lys Arg Leu Tyr Arg Arg Ser Val Tyr
50 55 60

<210> 5683  
 <211> 258  
 <212> PRT  
 <213> B.fragilis

<400> 5683
Phe Gln Ser Arg Ser Met Cys Ser Glu Pro Asp Thr Phe Val Gln Thr
1 5 10 15
Leu Lys Asn Ile Lys Met Lys Lys Val Ile Ile Ile Gly Ala Thr Ser
20 25 30
Gly Ile Gly Lys Gly Leu Ala Glu Arg Phe Leu Arg Glu Gly Asn Thr
35 40 45
Val Gly Ile Thr Gly Arg Arg Glu Asp Lys Leu Gln Glu Ile Cys Ser
50 55 60
Gln Asn Lys Asn Cys Phe Tyr Ser Val Ser Asp Val Thr Lys Asp Thr
65 70 75 80
Asp Thr Val Arg Gln Leu Ser Asn Leu Val Asn Arg Val Gly Gly Met
85 90 95
Asp Ile Leu Ile Phe Cys Ser Gly Ile Gly Glu Leu Asn Pro Glu Leu
100 105 110
Asp Tyr Leu Leu Glu Lys Pro Thr Leu Leu Thr Asn Val Ile Gly Phe
115 120 125
Thr Asn Val Val Asp Trp Ala Phe His Phe Phe Gln Lys Gln Glu Trp
130 135 140
Gly His Leu Ile Val Ile Ser Ser Val Gly Gly Met Arg Gly Glu Gly
145 150 155 160
Ile Ala Pro Ala Tyr Asn Ala Ser Lys Ala Tyr Gln Ile Asn Tyr Thr
165 170 175

Glu Gly Leu Arg Lys Lys Thr Ala Lys Leu Pro Tyr Pro Ile Tyr Ile  
 180 185 190  
 Thr Asp Val Arg Pro Gly Phe Val Asp Thr Ala Met Ala Lys Gly Glu  
 195 200 205  
 Gly Leu Phe Trp Ile Thr Pro Leu Asp Lys Ala Val Gln Gln Ile Tyr  
 210 215 220  
 Arg Ala Ile Leu Arg Arg Arg Lys Val Ala Tyr Val Ser Lys Arg Trp  
 225 230 235 240  
 Lys Tyr Val Ala Leu Leu Leu Arg Met Ile Pro Ala Ser Ile Tyr Cys  
 245 250 255  
 Lys Met

<210> 5684  
 <211> 472  
 <212> PRT  
 <213> B.fragilis

<400> 5684  
 Lys His Lys Arg Met Lys Asn Phe Met Asp Lys Asn Phe Leu Leu Gln  
 1 5 10 15  
 Thr Glu Thr Ala Gln Glu Leu Tyr His Asn His Ala Ala Lys Met Pro  
 20 25 30  
 Ile Ile Asp Tyr His Cys His Leu Asn Pro Gln Met Val Ala Asp Asp  
 35 40 45  
 Tyr Arg Phe Lys Ser Leu Thr Glu Ile Trp Leu Gly Gly Asp His Tyr  
 50 55 60  
 Lys Trp Arg Ala Met Arg Ser Asn Gly Val Asp Glu Cys Phe Cys Thr  
 65 70 75 80  
 Gly Lys Glu Thr Ser Asp Trp Glu Lys Phe Glu Lys Trp Ala Glu Thr  
 85 90 95  
 Val Pro Tyr Thr Phe Arg Asn Pro Leu Tyr His Trp Thr His Leu Glu  
 100 105 110  
 Leu Lys Thr Ala Phe Gly Ile Asp Lys Val Leu Asn Pro Lys Thr Ala  
 115 120 125  
 Arg Glu Ile Tyr Asp Glu Cys Asn Glu Lys Leu Ser Ser Gln Glu Tyr  
 130 135 140  
 Ser Ala Arg Gly Met Met Arg Arg Tyr His Val Glu Thr Val Cys Thr  
 145 150 155 160  
 Thr Asp Asp Pro Ile Asp Ser Leu Glu Tyr His Ile Arg Thr Arg Glu  
 165 170 175  
 Ser Gly Phe Glu Ile Lys Met Leu Pro Thr Trp Arg Pro Asp Lys Val  
 180 185 190  
 Met Ala Val Glu Val Pro Ser Asp Phe Arg Thr Tyr Ile Glu Lys Leu  
 195 200 205  
 Ser Glu Ile Ser Glu Ile Thr Ile Ser Asp Tyr Asn Asp Met Ile Leu  
 210 215 220  
 Ala Leu Arg Lys Arg His Asp Tyr Phe Ala Glu Gln Gly Cys Lys Leu  
 225 230 235 240  
 Ser Asp His Gly Ile Glu Glu Phe Tyr Ala Glu Asp Tyr Thr Glu Gly  
 245 250 255  
 Glu Ile Lys Thr Ile Phe Asn Lys Ile Tyr Gly Gly Ser Glu Leu Thr  
 260 265 270  
 Lys Glu Glu Val Leu Lys Phe Lys Ser Ala Met Leu Ile Val Leu Gly  
 275 280 285  
 Glu Met Asp Trp Glu Lys Gly Trp Thr Gln Gln Phe His Tyr Gly Ala  
 290 295 300  
 Ile Arg Asn Asn Asn Ser Arg Met Phe Lys Leu Leu Gly Pro Asp Thr  
 305 310 315 320

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<210> 5685
<211> 257
<212> PRT
<213> B.fragilis
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<400>	5685														
Ser 1	Gly	Gly	Arg	Asp 5	Ser	Tyr	Leu	Pro	Leu 10	His	Lys	Leu	Asn 15	Asn	Tyr
Leu	Ile	Met	Lys 20	Arg	Phe	Ile	Leu	Cys 25	Ile	Ser	Cys	Leu	Leu 30	Ile	Cys
Cys	Leu	Phe 35	Leu	Leu	Pro	Glu	Val 40	Gln	Ala	Ala	Ile	Pro	Asp 45	Thr	Gly
Asn 50	Trp	Ile	Ser	His	His	Leu 55	Leu	Thr	Ser	Asp	Gly 60	Leu	Thr	Val	Leu
Ala 65	Ala	Gly	Pro	Ala	Phe 70	Ala	Pro	Leu	Lys	Trp 75	Asn	Ile	Gly	Gln	Asn 80
Asn	Met	Gly	Gly	Tyr 85	Lys	Gly	Arg	Leu	Leu 90	Phe	Ile	Pro	Tyr	Asp 95	Ala
Pro	Ser	Thr 100	Val	Pro	Met	Ile	Pro	Ala 105	Lys	Pro	Thr	Thr	Asn 110	Glu	Asp
Leu	Ile	Thr 115	Ala	Ser	Gly	Ser	Phe 120	Thr	Phe	Pro	Ser	Gly 125	Gly	Thr	Tyr
Thr	Gln 130	Pro	Ile	Tyr	Leu	Tyr 135	Ser	Thr	Lys	Gly 140	Lys	Val	Gly	Tyr	Lys
Ala 145	Glu	Ile	Gln	Gly	Glu 150	Thr	Asp	Gly	Lys	Ser 155	Phe	Lys	Gln	Thr	Leu 160
Glu	Phe	Phe	Phe	Pro 165	Gly	Asn	Thr	Pro	Gly 170	Met	His	Ala	Phe 175	Ser	Thr
Leu	Val	Lys	Asn 180	Thr	Pro	Gly	Tyr	Phe 185	Val	Phe	Glu	Asp	Ser 190	Asp	Gly
Gln	Gln	Phe 195	Leu	Met	Gly	Lys	Pro	Gly 200	Met	Tyr	Ala	Asp 205	Val	Ser	Pro
Ser	Phe 210	Asp	Gly	Gly	Lys	Leu 215	Ala	Ala	Asp	Gln	Arg	Gly 220	Thr	Ala	Tyr
Thr 225	Ala	Thr	Cys	Asp	Ala 230	Asn	Glu	Ser	Ala	Val 235	Val	Leu	Gly	Thr	Pro 240
Ile	Asp	Met	Glu	Val 245	Ile	Ala	Gly	Leu	Lys 250	Pro	Ala	Pro	Ser	Pro	Gly

Gly

<210> 5686  
 <211> 130  
 <212> PRT  
 <213> B.fragilis

<400> 5686  
 Ile Ile Met Ser Leu Asn Asp Arg Leu Arg Ile Val Val Asn Glu Phe  
 1 5 10 15  
 Phe His Gly Asn Lys Ala Ala Phe Ala Arg Ala Ala Lys Ile Ser Asp  
 20 25 30  
 Gln Arg Ala Tyr Ser Cys Leu Ser Val Arg Ser Asn Thr Glu Pro Pro  
 35 40 45  
 Ala Arg Val Leu Glu Asn Leu Ala Lys Tyr Leu Pro Asn Leu Asn Ala  
 50 55 60  
 Thr Trp Leu Leu Thr Gly Glu Gly Glu Met Ile Gln Asp Lys Ser Thr  
 65 70 75 80  
 Pro Glu Met Pro Ile Thr Leu Val Ser Val Asn Glu Tyr Lys Ser Arg  
 85 90 95  
 Leu Gln Gln Met Glu Val Arg Leu Glu Ala Leu Arg Ala Gln Val Val  
 100 105 110  
 Leu Lys Asp Lys Leu Leu Ala Gly Leu Leu Arg Lys Val Glu Asn Lys  
 115 120 125  
 Thr Lys  
 130

<210> 5687  
 <211> 198  
 <212> PRT  
 <213> B.fragilis

<400> 5687  
 Asn Asn Met Ser Pro Arg Lys Leu Met Phe Trp Leu Phe Ala Cys Ile  
 1 5 10 15  
 Phe Leu Val Cys Ala Leu Arg Ala Gly Leu Leu Thr Ser Ala Asp Gln  
 20 25 30  
 Tyr Ile Tyr His Leu Arg Asn Met His Ala Ser Thr Phe Ala Tyr Arg  
 35 40 45  
 Tyr Asp Asp Phe Leu Pro Tyr Leu Pro Ile Val Ala Met Phe Val Leu  
 50 55 60  
 Lys Leu Thr Gly Val Lys Ser Arg Ser Asn Trp Lys Arg Met Leu Val  
 65 70 75 80  
 Ser Thr Ala Phe Ser Tyr Ile Leu Met Gly Ala Ile Val Leu Thr Met  
 85 90 95  
 Lys Ser Leu Ala Gly Val Leu Arg Pro Asp Gly Ser Asp Phe Leu Ser  
 100 105 110  
 Phe Pro Ser Gly His Thr Ala Thr Ala Phe Thr Ala Ala Thr Leu Leu  
 115 120 125  
 Tyr Lys Glu Tyr Gly Phe Lys Thr Pro Leu Ala Gly Ile Ala Thr Phe  
 130 135 140  
 Leu Pro Ala Val Val Thr Gly Phe Thr Arg Gln Leu Asn Asn Arg His  
 145 150 155 160  
 Trp Leu Ser Asp Val Leu Ala Gly Ala Ile Ile Gly Ile Met Met Val  
 165 170 175  
 Glu Leu Ala Tyr Phe Leu Thr Asp Arg Leu Leu Met Lys Thr Gly Ala  
 180 185 190  
 Gln Thr Cys Ser Lys Ser

195

&lt;210&gt; 5688

&lt;211&gt; 532

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5688

Lys	Leu	Ser	Gly	Tyr	Lys	Asp	Lys	Ala	Tyr	Leu	Cys	Asn	Val	Phe	Leu
1				5					10					15	
Ile	Gln	Val	Thr	Met	Asp	Tyr	Pro	His	Lys	Ile	Asn	Lys	Val	Gln	Ile
			20					25					30		
Arg	Asn	Leu	Gln	Ile	Glu	Asp	Tyr	Ala	Gln	Leu	Ser	Gln	Ser	Phe	Thr
		35					40					45			
Arg	Val	Tyr	Ser	Asp	Gly	Ser	Asp	Val	Phe	Trp	Thr	His	Glu	Gln	Ile
	50					55					60				
Glu	Lys	Leu	Ile	Lys	Ile	Phe	Pro	Glu	Gly	Gln	Ile	Val	Thr	Val	Val
65					70					75					80
Asp	Glu	Lys	Ile	Val	Gly	Cys	Ala	Leu	Ser	Ile	Ile	Val	Glu	Tyr	Asp
				85					90					95	
Lys	Val	Lys	Asn	Asp	His	Thr	Tyr	Ala	Gln	Val	Thr	Gly	Lys	Glu	Thr
			100					105						110	
Phe	Asn	Thr	His	Ser	Pro	Gln	Gly	Asn	Ile	Leu	Tyr	Gly	Ile	Glu	Val
		115					120					125			
Phe	Ile	His	Pro	Glu	Tyr	Arg	Gly	Leu	Arg	Leu	Ala	Arg	Arg	Met	Tyr
	130					135					140				
Glu	Tyr	Arg	Lys	Glu	Leu	Cys	Glu	Thr	Leu	Asn	Leu	Lys	Ala	Ile	Met
145					150						155				160
Phe	Gly	Gly	Arg	Ile	Pro	Asn	Tyr	His	Lys	Tyr	Ala	Asp	Lys	Met	Arg
				165					170					175	
Pro	Lys	Glu	Tyr	Ile	Asp	Arg	Val	Arg	Gln	Arg	Glu	Ile	Tyr	Asp	Pro
			180					185						190	
Val	Leu	Thr	Phe	Gln	Leu	Ser	Asn	Asp	Phe	His	Val	Arg	Lys	Val	Met
	195						200					205			
Thr	Asn	Tyr	Leu	Pro	Asn	Asp	Glu	Glu	Ser	Lys	His	Tyr	Ala	Cys	Leu
	210					215						220			
Leu	Gln	Trp	Asp	Asn	Ile	Tyr	Tyr	Gln	Pro	Pro	Thr	Gln	Glu	Tyr	Leu
225					230					235					240
Ala	Pro	Lys	Thr	Thr	Val	Arg	Val	Gly	Leu	Val	Gln	Trp	Gln	Met	Arg
				245					250					255	
Ser	Tyr	Lys	Thr	Leu	Asp	Asp	Leu	Phe	Glu	Gln	Val	Glu	Phe	Phe	Val
			260					265						270	
Asp	Ala	Val	Ser	Asp	Tyr	Lys	Ser	Asp	Phe	Val	Leu	Phe	Pro	Glu	Tyr
		275					280					285			
Phe	Asn	Ala	Pro	Leu	Met	Ser	Lys	Tyr	Asn	Asp	Lys	Gly	Glu	Ser	Gln
	290					295					300				
Ala	Ile	Arg	Gly	Leu	Ala	Gln	Tyr	Thr	Glu	Glu	Ile	Arg	Asp	Arg	Phe
305					310					315					320
Ile	Asn	Leu	Ala	Ile	Ser	Tyr	Asn	Ile	Asn	Ile	Ile	Thr	Gly	Ser	Met
				325					330					335	
Pro	Leu	Ile	Lys	Glu	Asp	Gly	Leu	Leu	Tyr	Asn	Ala	Gly	Phe	Leu	Cys
			340					345					350		
Arg	Arg	Asp	Gly	Thr	Tyr	Glu	Met	Tyr	Glu	Lys	Leu	His	Val	Thr	Pro
		355					360					365			
Asp	Glu	Ile	Lys	Ser	Trp	Gly	Leu	Ser	Gly	Gly	Lys	Gln	Leu	Lys	Thr
	370					375					380				
Phe	Asp	Thr	Asp	Cys	Ala	Lys	Ile	Gly	Ile	Leu	Ile	Cys	Tyr	Asp	Val
385					390					395					400
Glu	Phe	Pro	Glu	Leu	Ser	Arg	Leu	Met	Ala	Asp	Gln	Gly	Met	Gln	Ile

	405		410		415
Leu Phe Val	Pro Phe Leu Thr Asp Thr	Gln Asn Ala Tyr Ser Arg Val			
	420		425		430
Arg Val Cys	Ala Gln Ala Arg Ala Ile Glu Asn Glu Cys Phe Val Val				
	435		440		445
Ile Ala Gly	Ser Val Gly Asn Leu Pro Arg Val His Asn Met Asp Ile				
	450		455		460
Gln Tyr Ala	Gln Ser Gly Val Phe Thr Pro Cys Asp Phe Ala Phe Pro				
465		470		475	480
Thr Asp Gly	Lys Arg Ala Glu Ala Thr Pro Asn Thr Glu Met Ile Leu				
	485		490		495
Val Ser Asp	Val Asp Leu Asp Leu Leu Asn Glu Leu His Thr Tyr Gly				
	500		505		510
Ser Val Arg	Asn Leu Lys Asp Arg Arg Asn Asp Val Tyr Glu Val Arg				
	515		520		525
Phe Lys Lys	Pro				
	530				

&lt;210&gt; 5689

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5689

Lys Leu Leu Gly	Asn Tyr Arg Asp Gln Ile Met Asn Arg Asn Ala Ile		
1	5	10	15
Leu Ser Lys	Arg Gln Lys Gln Phe Ile Glu Arg Ile Ala Trp Gly Ala		
	20	25	30
Ser Tyr Lys	Glu Val Ala Asp Phe Phe His Val Ser Trp Ser Thr Val		
	35	40	45
Asp Asn Thr	Leu Arg Asn Ala Lys Thr Lys Leu Gly Leu Ser Lys Val		
	50	55	60
Thr Glu Leu	Gly Ala Trp Trp Phe Cys Thr Asn Tyr Gly Ile Ser Phe		
65	70	75	80
Asp Leu Ser	Pro Ile Ala Arg Gln Cys Thr Ala Gly Val Ile Leu Leu		
	85	90	95
Leu Phe Ser	Leu Gly Glu Val Thr Thr Val Thr Asn Ile Ser Tyr Thr		
	100	105	110
Met Gln Arg	Val Arg Arg Pro Arg Thr Glu Tyr Arg Ile Arg Arg His		
	115	120	125
Glu Thr Ser	Ile Tyr Gln Pro Tyr Ile Ile Asn		
	130	135	

&lt;210&gt; 5690

&lt;211&gt; 430

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5690

Val Phe Gln	Gly Gly Ile Leu Phe Phe Leu Leu Leu Tyr Arg Cys Asn		
1	5	10	15
Arg Glu Ile	Ile Ser Phe Phe Ile Lys Leu Ile Met Asn Asn Trp Lys		
	20	25	30
Lys Lys Phe	Ile Ile Ile Trp Thr Gly Gln Leu Phe Ser Ile Leu Ser		
	35	40	45
Ser Ser Ile	Ala Gln Phe Ser Ile Val Leu Trp Ile Ser Leu Lys Thr		
	50	55	60
Gly Ser Ala	Glu Val Leu Ser Phe Ala Thr Ile Ala Ala Leu Leu Pro		
65	70	75	80



Gln Ala Leu Leu Gly Pro Phe Ala Gly Val Phe Val Asp Arg Trp Asn  
 85 90 95  
 Arg Lys Trp Thr Met Ile Gly Ala Asp Ser Phe Val Ala Leu Cys Ser  
 100 105 110  
 Gly Val Ile Ala Leu Leu Phe Tyr Leu Asp Ile Ile Glu Leu Trp His  
 115 120 125  
 Ile Tyr Leu Leu Leu Met Leu Arg Ser Val Gly Gly Ala Phe His Thr  
 130 135 140  
 Pro Ala Met Lys Ser Ser Val Pro Leu Leu Ala Pro Glu Lys Glu Leu  
 145 150 155 160  
 Met Arg Ile Ala Gly Ile Asn Gln Ala Ile Gln Ser Ile Cys Asn Ile  
 165 170 175  
 Gly Gly Pro Ala Leu Gly Ala Ile Leu Leu Leu Ala Phe Asp Met Ser  
 180 185 190  
 Leu Val Met Leu Leu Asp Val Leu Gly Ala Ile Ile Ala Cys Thr Ala  
 195 200 205  
 Leu Leu Phe Val Tyr Ile Pro Asn Pro Lys Gln Glu Asn Thr Ser Ala  
 210 215 220  
 Lys Asn Val Leu Tyr Asp Met Arg Asp Gly Phe Asn Val Ile Met Arg  
 225 230 235 240  
 Asn Lys Gly Val Ser Trp Val Met Val Thr Glu Val Leu Val Thr Phe  
 245 250 255  
 Phe Val Met Pro Met Val Ala Leu Met Pro Leu Met Thr Leu Lys Asn  
 260 265 270  
 Phe Ser Gly Thr Ala Tyr Gln Val Ser Leu Ile Glu Thr Leu Phe Gly  
 275 280 285  
 Ala Gly Met Leu Ala Gly Gly Ala Leu Leu Gly Val Trp Asn Pro Lys  
 290 295 300  
 Ile Arg Lys Thr Leu Leu Ile Ala Ile Ser Tyr Phe Leu Leu Gly Ala  
 305 310 315 320  
 Ala Leu Ala Phe Cys Gly Ile Leu Pro Ala Asp Gly Phe Val Leu Phe  
 325 330 335  
 Ala Ala Leu Thr Val Ala Gln Gly Ile Val Val Pro Phe Phe Ser Gly  
 340 345 350  
 Pro Phe Thr Ser Leu Leu Gln Thr Gln Phe Lys Pro Ala Tyr Leu Gly  
 355 360 365  
 Arg Val Phe Ser Leu Phe Asp Ser Val Ser Leu Leu Pro Ser Ile Ile  
 370 375 380  
 Gly Leu Phe Ile Thr Gly Phe Ile Ala Asp Ser Leu Gly Ile Ala Asn  
 385 390 395 400  
 Ile Phe Ile Cys Cys Gly Ile Ala Ile Val Phe Thr Ser Ile Leu Met  
 405 410 415  
 Met Cys Ile Pro Ala Val Arg Asp Leu Glu Lys Gln Ser Lys  
 420 425 430

<210> 5691  
 <211> 131  
 <212> PRT  
 <213> B.fragilis

<400> 5691  
 Glu Tyr Ile Ile Pro Ile Tyr Tyr Pro Ile Lys Ile Arg Leu Leu Phe  
 1 5 10 15  
 Asp Ile His Asn Ile Ile Met Ile Lys Lys Glu Asn Lys Ile Phe Val  
 20 25 30  
 Val Ile Ser Pro Asp Pro Val Glu Arg Glu Gln Leu Ile Ala Arg Leu  
 35 40 45  
 Ala Val Arg Leu Gly Phe Ala Lys Ile Pro Ser Asp Ala Leu Lys Ile  
 50 55 60

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Ile Ser Lys Asp Ile Tyr Ser Phe Asp Leu Ala Thr Ala Tyr Phe Val
65          70          75          80
Leu Cys Ser Asn Tyr His Phe Arg Gly Ser Ile Val Thr Thr Gln Arg
      85          90          95
Leu Tyr Glu Leu Ala Ala Arg Gly Ile Cys Val Cys Val Gly Val Lys
      100        105        110
Ser Leu Pro Arg Glu Tyr Glu Leu Leu Ser Gln Val Phe Tyr Pro Asn
      115        120        125
Asp Leu Arg
      130

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<210> 5692  
 <211> 431  
 <212> PRT  
 <213> B.fragilis

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<400> 5692
Thr Leu Thr Ile Lys Lys Ser Ile Gln Met Ala Ala Asn Lys Leu Ile
1          5          10          15
Asp Val Ser Lys Leu Asn Glu Ala Leu Val Ile Tyr Asp Gln Ala Leu
      20          25          30
Arg Ala Leu Pro Phe Ala Thr Leu Thr Glu Val Ala Asn Leu Leu Lys
      35          40          45
Leu Asn Val Met Asp Leu Gln Gly Lys His Ala Arg Ile Asn Glu Arg
      50          55          60
Arg Arg Ala Gly Gly Thr Gln Ser Tyr Lys Ile Gly Lys Asn Phe Gly
65          70          75          80
Leu Val Asp Lys Leu Leu Gly Tyr Glu Pro Ser Val Ile Glu Pro Lys
      85          90          95
Asp Val Val Cys Ile Thr Lys Glu Asn Ser Gln Lys Tyr Asp Asp Asn
      100        105        110
Glu Leu Leu Ile Ile Gly Gly Thr Pro Val Ser Asn Thr Thr Lys Lys
      115        120        125
His Pro Met Glu Thr Lys Val Ala Phe Thr Leu Val Arg Ser His Leu
      130        135        140
Glu Asp Ile Val Tyr Ser Leu Phe Ser Ala Glu Arg Asp Glu Asp Ser
145        150        155        160
Asn Ser Pro Gly Gly Ala Phe Asp Gly Ile Tyr Thr Lys Met Asp Met
      165        170        175
Leu Ile Thr Arg Gly Asp Val Asn Ala Ala Arg Gly Asn Phe Ser Ile
      180        185        190
Ser Gly Glu Phe Ala Ala Pro Thr Ser Asp Thr Asp Tyr Thr Ala Tyr
      195        200        205
Glu Asn Leu Val Glu Trp Ile Gly Gly Ala Asn Thr Tyr Leu Arg Ser
      210        215        220
Ser Ile Gly Gly Val Pro Gln Leu Leu Cys Ala Glu Thr Val Leu Lys
225        230        235        240
Ala Ala Arg Ser Ala Leu Arg Asn Lys Leu Arg Met Gln Glu Tyr Pro
      245        250        255
Ser Met Gln Arg Met Leu Glu Leu Leu Arg Glu Asp Ala Met Cys Pro
      260        265        270
Asn Leu Ile Val Ser Ser His Glu Ala Leu Gly Gln Gly Ser Arg Leu
      275        280        285
Thr Leu Gln Lys Val Gly Asn Ile Asp Val Ala Phe Asn Thr Gln Ala
      290        295        300
Ala Ser Lys Phe Cys Gln Ile Arg Asp Ile Tyr Glu Asp Pro Asn Glu
305        310        315        320
Trp Gln Phe Trp Leu Gln Ala Gly Tyr Asp Thr Arg Ile Asn Asp Trp
      325        330        335

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His Glu Lys Val Phe Arg Cys Asn Glu Gln Lys Asn Glu Ser Leu Asp  
 340 345 350  
 Leu Ala Gly Asp Tyr Cys Lys Thr Gly Gly Val Gln Val Ala Ile Thr  
 355 360 365  
 Gly Thr Asp Lys Gly Gln Trp Ser Ile Gln Gly Lys Val Ala Lys Arg  
 370 375 380  
 Gly Asn Gly Gln Cys Ile Ile Gly Leu Pro Pro Gly Lys Tyr Thr Ile  
 385 390 395 400  
 Glu Phe Thr Asp Ala Asp Gly Lys Thr Lys Pro Ala Asn Thr Gln Val  
 405 410 415  
 Thr Val Val Ala Gly Glu Val Ala Thr Ala Thr Gly Ala Tyr Thr  
 420 425 430

<210> 5693  
 <211> 115  
 <212> PRT  
 <213> B.fragilis

<400> 5693  
 Val Leu Tyr Ile Met Glu Gln Leu Phe Glu Ala Ile Leu Ala Ile Ala  
 1 5 10 15  
 Lys Gln Asn Pro Asp Gly Phe Thr Val Asp Leu Thr Thr Leu Lys Lys  
 20 25 30  
 Val Thr Lys Gly Ile Ser Val Ala Tyr Leu Glu Thr Gln Asp Ser Phe  
 35 40 45  
 Gly Glu Glu Gly Leu Lys Arg Val Leu Asn His Ala Glu Met His Glu  
 50 55 60  
 Lys Lys Val Gly Gly Trp Leu Asn Glu Glu Asn Gln Glu Phe Tyr Phe  
 65 70 75 80  
 Asp Ser Val Arg Ile Phe Thr Asn Leu Glu Glu Ala Lys Arg Phe Gly  
 85 90 95  
 Cys Glu Asn Lys Gln Ile Ala Ile Phe Asp Ile Ser His Met Arg Leu  
 100 105 110  
 Ile Lys Leu  
 115

<210> 5694  
 <211> 255  
 <212> PRT  
 <213> B.fragilis

<400> 5694  
 Tyr Leu Tyr Ile Cys Ser Asn Gln Arg Leu Asn Ile Met His Asp Ile  
 1 5 10 15  
 Pro Lys Gln Ile Pro Leu Ala Asn Asn His Ile Ser Val Asp Cys Val  
 20 25 30  
 Val Ile Gly Phe Asp Gly Glu Gln Leu Lys Val Leu Leu Ile Asn Arg  
 35 40 45  
 Ile Gly Glu Glu Asn Gly Lys Val Tyr Arg Asp Met Lys Leu Pro Gly  
 50 55 60  
 Ser Leu Ile Tyr Met Asp Glu Asp Leu Asp Glu Ala Ala Gln Arg Val  
 65 70 75 80  
 Leu Phe Glu Leu Thr Gly Ile Arg Asn Val Asn Leu Met Gln Phe Lys  
 85 90 95  
 Ala Phe Gly Ser Lys Asn Arg Thr Ser Asn Pro Lys Asp Val His Trp  
 100 105 110  
 Leu Glu Arg Ala Met Gln Ser Lys Val Glu Arg Ile Val Thr Ile Ala  
 115 120 125  
 Tyr Leu Ser Met Val Lys Ile Asp Arg Ala Leu Asp Lys Asn Leu Asp

130	135	140
Glu Phe Gln Ala Cys Trp Val Ala Leu Lys Asp Ile Lys Thr Leu Ala		
145	150	155
Phe Asp His Asn Leu Ile Ile Arg Glu Ala Leu Thr Tyr Ile Arg Gln		160
	165	170
Phe Val Glu Phe Asn Pro Ser Met Leu Phe Asp Leu Leu Pro Arg Lys		175
	180	185
Phe Thr Ala Ser Gln Leu Arg Ile Leu Phe Glu Leu Val Tyr Asp Lys		190
195	200	205
Ala Val Asp Val Arg Asn Phe His Lys Lys Ile Ala Leu Met Asp Tyr		
210	215	220
Val Val Pro Leu Glu Glu Lys Gln Thr Gly Val Ala His Arg Ala Ala		
225	230	235
Arg Tyr Tyr Lys Phe Asp Arg Lys Ile Tyr Asn Lys Thr Arg Arg		240
	245	250
		255

&lt;210&gt; 5695

&lt;211&gt; 773

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5695

Lys Pro Tyr Met Lys Lys Gly Ile Leu Tyr Thr Ile Leu Leu Tyr Leu		
1	5	10
Ala Leu Ser Leu Ala Ser Cys Ser Ala Thr Lys Phe Val Pro Asp Gly		15
	20	25
Ser Tyr Leu Leu Asp Glu Val Lys Ile His Thr Asp Asn Lys Glu Ile		30
	35	40
Lys Pro Ser Asp Met Arg Leu Tyr Val Arg Gln Asn Pro Asn Ser Lys		45
	50	55
Trp Phe Ser Thr Ile Lys Thr Gln Leu Tyr Val Tyr Asn Trp Ser Gly		60
65	70	75
Arg Asp Ser Thr Lys Trp Phe Asn Arg Phe Leu Arg Lys Ile Gly Asp		80
	85	90
Ala Pro Val Ile Tyr Asn Glu Ser Asp Ala Ile Arg Ser Gln Glu Glu		95
	100	105
Ile Ala Lys Ala Val Gln Asn Leu Gly Tyr Met Gly Ala Ser Val Lys		110
	115	120
Arg Thr Thr Lys Thr Lys Lys Lys Leu Lys Leu Phe Tyr Glu Ile		125
	130	135
Thr Ser Gly Lys Pro Tyr Ile Val Arg Thr Leu Lys Tyr Asp Ile Ser		140
145	150	155
Asp Lys Lys Ile Ala Glu Tyr Leu Arg Asn Asp Ser Thr Gln Ser Met		160
	165	170
Leu Arg Glu Gly Met Leu Phe Asp Val Asn Val Leu Asp Ala Glu Arg		175
	180	185
Gln Arg Ile Thr Asp Tyr Leu Leu Cys Asn Gly Tyr Tyr Lys Phe Asn		190
	195	200
Lys Asp Tyr Ile Thr Tyr Thr Ala Asp Thr Ala Arg Asn Thr His Gln		205
	210	215
Val Asp Leu Thr Leu His Leu Leu Pro Tyr Lys Thr Tyr Val Gly Asp		220
225	230	235
Thr Pro Lys Glu His Phe Gln Tyr Lys Ile Asn Lys Ile Asn Phe Ile		240
	245	250
Thr Asp Tyr Asp Val Leu Gln Ser Ser Ala Leu Ser Ser Ile Glu Ile		255
	260	265
Asn Asp Ser Leu His Tyr Asn Gly Phe Pro Ile Tyr Tyr Lys Asp Lys		270
	275	280
Leu Tyr Leu Arg Pro Lys Val Leu Val Asp Asn Leu Arg Phe Ala Ser		285

290	295	300
Gly Asp Leu Tyr Asp	Glu Arg Asn Val Gln Lys	Thr Tyr Thr Tyr Phe
305	310	315
Gly Arg Leu Ser Ala	Leu Lys Tyr Thr Asn Ile	Arg Phe Phe Glu Thr
325	330	335
Gln Asn Gly Asp Ser Thr	Gln Leu Asn Cys Tyr Val Met	Leu Thr Lys
340	345	350
Ser Lys His Lys Ser Ile	Ser Phe Glu Leu Glu Gly Thr	Asn Ser Ala
355	360	365
Gly Asp Leu Gly Ala Ala	Ala Ser Val Ser Phe Gln His	Arg Asn Leu
370	375	380
Phe Arg Gly Ser Glu Thr	Phe Met Val Lys Phe Arg Gly Ala Tyr Glu	400
385	390	395
Ala Ile Ser Gly Leu Gln	Pro Gly Tyr Lys Asn His Asn Tyr Thr Glu	415
405	410	415
Tyr Gly Val Glu Thr Ser	Ile Asn Phe Pro Asn Phe Leu Phe Pro Phe	430
420	425	430
Leu Thr Ser Asp Phe Lys	Arg Arg Ile Lys Ala Thr Thr Glu Phe Gly	445
435	440	445
Leu Gln Tyr Asn Tyr Gln	Leu Arg Pro Glu Phe Ser Arg Thr Ile Ala	460
450	455	460
Ser Ala Ser Trp Ser Tyr	Lys Trp Ile Gln Lys Gln Lys Ile Gln His	480
465	470	475
Arg Ile Asp Leu Leu Asp	Ile Ser Tyr Leu Tyr Leu Pro Trp Ile Ser	495
485	490	495
Ser Gln Phe Gln Glu Asp	Tyr Ile Asn Lys Asp Lys Asp Asn Tyr Ile	510
500	505	510
Leu Lys Tyr Asn Tyr Glu	Asn Arg Leu Ile Val Arg Met Gly Tyr Asn	525
515	520	525
Tyr Ser Tyr Asn Ser Ala	Gly Gly Thr Leu Val Asn Asn Thr Ile Thr	540
530	535	540
Thr Asn Ser Tyr Ser Ile	Arg Ala Gly Phe Glu Ser Ala Gly Asn Ile	560
545	550	555
Leu Tyr Gly Ile Ser Lys	Met Ile Asn Met Arg Lys Asn Lys Asp Gly	575
565	570	575
Glu Tyr Ala Ile Leu Gly	Ile Pro Tyr Ala Gln Tyr Leu Lys Gly Asp	590
580	585	590
Phe Asp Phe Ala Lys Asn	Ile Ile Asp His Arg Asn Ser Leu Ala	605
595	600	605
Phe His Ala Gly Ile Gly	Ile Ala Val Pro Tyr Gly Asn Ala Lys Val	620
610	615	620
Val Pro Phe Glu Lys Arg	Tyr Phe Ser Gly Gly Ala Asn Ser Val Arg	640
625	630	635
Gly Trp Ser Val Arg Asn	Leu Gly Pro Gly Ser Phe Ala Gly Asp Gly	655
645	650	655
Asn Phe Met Asn Gln Ser	Gly Asp Ile Lys Leu Asp Ala Ser Ile Glu	670
660	665	670
Tyr Arg Thr Arg Leu Phe	Trp Lys Phe Arg Gly Ala Ala Phe Ile Asp	685
675	680	685
Ala Gly Asn Ile Trp Thr	Ile Arg Glu Tyr Glu Asn Gln Pro Gly Gly	700
690	695	700
Val Phe Glu Phe Asp Lys	Phe Tyr Lys Gln Ile Ala Val Ala Tyr Gly	720
705	710	715
Leu Gly Leu Arg Leu Asp	Leu Asp Phe Phe Val Leu Arg Phe Asp Gly	735
725	730	735
Gly Met Lys Ala Ile Asn	Pro Lys Tyr Lys Lys Ala Lys Glu Arg Tyr	750
740	745	750
Pro Ile Ile His Pro Arg	Phe Ser Arg Asp Phe Ala Phe His Phe Ala	765
755	760	765

Val Gly Tyr Pro Phe  
770

<210> 5696

<211> 88

<212> PRT

<213> B.fragilis

<400> 5696

His	Tyr	Arg	Ile	Met	Pro	Ser	Asp	Arg	Ile	His	Gln	Ser	Lys	Val	Trp
1				5					10					15	
Glu	Leu	Met	Glu	Gln	Arg	Lys	Glu	Gly	Lys	Pro	Ile	Glu	Phe	Ser	Ile
			20					25					30		
Glu	Phe	Cys	Lys	Lys	Ser	Thr	Gly	Glu	Leu	Ile	Thr	Tyr	Glu	Arg	Ala
			35				40					45			
Val	Leu	Ser	Ser	Phe	His	Ser	Ser	Gly	Ser	Thr	Val	Asn	Ile	Leu	Gln
	50					55					60				
Ile	Gly	Glu	Tyr	Ala	Pro	Arg	Lys	Ile	Arg	Arg	Cys	Leu	Ile	Thr	Arg
65					70				75						80
Phe	Asn	Asn	Ile	Lys	Val	Tyr	Phe								
				85											

<210> 5697

<211> 509

<212> PRT

<213> B.fragilis

<400> 5697

Tyr	Leu	Leu	Ile	Ile	Ser	Pro	Tyr	Phe	Thr	Val	Cys	Arg	Leu	Leu	Leu
1				5					10					15	
Pro	Ala	Asp	Arg	Asn	Ser	Lys	Lys	Ala	Asn	Ala	Met	Asn	His	Thr	Asn
			20					25					30		
Glu	Gly	Ser	Lys	Leu	Tyr	Leu	Tyr	Ser	Ile	Thr	Ser	Val	Ala	Ile	Leu
			35				40					45			
Gly	Gly	Leu	Leu	Phe	Gly	Tyr	Asp	Thr	Ala	Val	Ile	Ser	Gly	Ala	Glu
	50					55					60				
Lys	Gly	Leu	Glu	Ala	Phe	Leu	Thr	Ala	Thr	Asp	Phe	Gln	Tyr	Asp	
65					70				75					80	
Lys	Val	Met	His	Gly	Ile	Thr	Ser	Ser	Ser	Ala	Leu	Ile	Gly	Cys	Val
				85					90					95	
Leu	Gly	Gly	Ala	Leu	Ser	Gly	Ile	Phe	Ala	Ser	Arg	Leu	Gly	Arg	Arg
			100					105					110		
Asn	Ser	Leu	Arg	Leu	Ala	Ala	Val	Leu	Phe	Phe	Leu	Ser	Ala	Leu	Gly
			115				120					125			
Ser	Tyr	Tyr	Pro	Glu	Phe	Leu	Phe	Phe	Glu	Tyr	Gly	Lys	Ala	Asn	Met
	130					135					140				
Asn	Leu	Leu	Ile	Thr	Phe	Asn	Leu	Tyr	Arg	Ile	Leu	Gly	Gly	Ile	Gly
145					150				155					160	
Val	Gly	Leu	Ala	Ser	Ala	Val	Cys	Pro	Met	Tyr	Ile	Ala	Glu	Ile	Ala
			165					170					175		
Pro	Ser	Asn	Ile	Arg	Gly	Thr	Leu	Val	Ser	Cys	Asn	Gln	Phe	Ala	Ile
			180					185					190		
Ile	Phe	Gly	Met	Leu	Val	Val	Tyr	Phe	Val	Asn	Tyr	Leu	Ile	Leu	Gly
			195				200					205			
Asp	His	Gln	Asn	Pro	Val	Ile	Leu	Lys	Asp	Ala	Ala	Gly	Thr	Leu	Ser
	210					215					220				
Val	Ser	Ser	Glu	Ser	Asp	Met	Trp	Thr	Val	Thr	Glu	Gly	Trp	Arg	Tyr
225					230					235				240	
Met	Phe	Gly	Ser	Glu	Ala	Phe	Pro	Ala	Ala	Phe	Phe	Gly	Met	Leu	Leu

245 250 255  
 Phe Phe Val Pro Lys Thr Pro Arg Tyr Leu Val Met Ile Asp Gln Asp  
 260 265 270  
 Gln Lys Ala Tyr Ser Ile Leu Lys Val Asn Gly Ala Thr Lys Ala  
 275 280 285  
 Gln Glu Ile Leu Ala Glu Ile Lys Ala Thr Ser Gln Glu Lys Thr Glu  
 290 295 300  
 Lys Leu Phe Thr Tyr Gly Ala Ala Val Ile Val Ile Gly Ile Leu Leu  
 305 310 315 320  
 Ser Val Phe Gln Gln Ala Ile Gly Ile Asn Ala Val Leu Tyr Tyr Ala  
 325 330 335  
 Pro Arg Ile Phe Glu Asn Ala Gly Ala Glu Gly Gly Gly Met Met Gln  
 340 345 350  
 Thr Val Ile Met Gly Ile Val Asn Ile Val Phe Thr Leu Ile Ala Ile  
 355 360 365  
 Phe Thr Val Asp Arg Phe Gly Arg Lys Pro Leu Leu Ile Ile Gly Ser  
 370 375 380  
 Val Gly Met Ala Val Gly Ala Phe Ala Val Ala Leu Cys Asp Ser Met  
 385 390 395 400  
 Gly Ile Lys Gly Ile Leu Pro Val Leu Ser Val Ile Val Tyr Ala Ala  
 405 410 415  
 Phe Phe Met Met Ser Trp Gly Pro Ile Cys Trp Val Leu Ile Ser Glu  
 420 425 430  
 Ile Phe Pro Asn Thr Ile Arg Gly Lys Ala Val Ala Ile Ala Val Ala  
 435 440 445  
 Phe Gln Trp Ile Phe Asn Tyr Ile Val Ser Ser Thr Phe Pro Ala Leu  
 450 455 460  
 Tyr Asp Phe Ser Pro Met Phe Ala Tyr Ser Leu Tyr Gly Ile Ile Cys  
 465 470 475 480  
 Val Ile Ala Ala Leu Phe Val Trp Arg Trp Val Pro Glu Thr Lys Gly  
 485 490 495  
 Lys Thr Leu Glu Asp Met Ser Lys Leu Trp Lys Arg Arg  
 500 505

&lt;210&gt; 5698

&lt;211&gt; 196

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5698

Asn Tyr Val Met Asp Glu Glu Val Lys Gly Phe Asn Arg Tyr Met Ser  
 1 5 10 15  
 Lys Val Asp Phe Gln Pro Val Thr Glu Phe Ile Phe Gln Asn Gly Gln  
 20 25 30  
 Leu Thr Asp Tyr Lys Lys Gly Glu Phe Phe Ser Arg Gln Asn Glu Ser  
 35 40 45  
 Cys Lys Met Val Gly Tyr Val Thr Glu Gly Ser Phe Arg Tyr Cys Cys  
 50 55 60  
 Thr Asp Ser Arg Gly Gly Ser Lys Ile Val Gly Tyr Thr Phe Asp His  
 65 70 75 80  
 Ser Phe Val Gly Asn Tyr Pro Ala Phe Arg Leu Gly Asp Asn Ser Asn  
 85 90 95  
 Val Asp Ile Gln Ala Ile Cys Asn Cys Ser Val Tyr Val Ile Asn Asn  
 100 105 110  
 Arg Gln Leu Glu Glu Phe Tyr Ser Arg Asn Glu Ala Asn Gln Lys Leu  
 115 120 125  
 Gly Arg Gln Ile Ala Glu Ile Leu Leu Trp Glu Val Tyr Glu Arg Met  
 130 135 140  
 Ile Ser Leu Tyr Ser Met Thr Pro Glu Glu Arg Tyr Thr Glu Ile Leu

145                      150                      155                      160  
 Lys Arg Cys Pro Glu Leu Leu Asn Leu Ile Ser Leu Lys Glu Leu Ala  
                                  165                      170                      175  
 Ser Tyr Leu Met Ile Cys Pro Glu Thr Leu Ser Arg Leu Arg Arg Lys  
                                  180                      185                      190  
 Leu Val Gln Lys  
                                  195

<210> 5699  
 <211> 67  
 <212> PRT  
 <213> B.fragilis

<400> 5699  
 Asp Leu Arg Met Ala Tyr Arg Trp Gln Ile Met Lys Asn Glu Thr Ala  
 1                      5                      10                      15  
 Phe Ser Met Ala Gly Ile Tyr Asp Ile Gly Val Asp Lys Glu Ser Gly  
                                  20                      25                      30  
 Lys Gln His Ala Thr Phe Ser Ile Ile Thr Ile Val Thr Asp Pro Leu  
                                  35                      40                      45  
 Thr Asp Tyr Ile His Asn Thr Lys Tyr Arg Met Pro Val Ile Phe Val  
                                  50                      55                      60  
 Ile Gln Arg  
 65

<210> 5700  
 <211> 319  
 <212> PRT  
 <213> B.fragilis

<400> 5700  
 Tyr Lys Leu Ile Ala Leu Leu Tyr Val Tyr Trp His Ile Phe Thr Tyr  
 1                      5                      10                      15  
 Phe Ala Pro Tyr Lys Gly Thr Thr Met His Lys Lys Leu Leu Val Thr  
                                  20                      25                      30  
 Ala Tyr Phe Val Ile Ala Ala Leu Leu Gln Thr Leu Ala Gly Asn Phe  
                                  35                      40                      45  
 Pro Leu Ser Phe Phe Ala Phe Pro Leu Asn Val Ile Val Ala Val Ile  
                                  50                      55                      60  
 Trp Ile Tyr Ser Leu Trp Arg Leu Tyr Lys Glu Gly Asn Lys Leu Pro  
 65                      70                      75                      80  
 Leu Thr Arg Phe Leu Leu Ser Ser Arg Thr Ser Val Leu Ser Ile Leu  
                                  85                      90                      95  
 Leu Leu Ile Gly Gly Ser Leu Val Ile Gly Leu Phe Pro Gln Leu Ser  
                                  100                      105                      110  
 Glu Ala Glu Ala Asp Ser Met Pro Gly Val Leu Ala Ser Leu Gly Cys  
                                  115                      120                      125  
 Tyr Asn Phe Met Thr Ser Trp Ile Phe Ile Ala Ile Leu Phe Leu Leu  
                                  130                      135                      140  
 Leu Ser Asn Leu Ala Met Val Ile Ile His Ala Phe Tyr His Cys Val  
 145                      150                      155                      160  
 Pro Ala Lys Lys Arg Phe Ile Leu Asn His Leu Gly Leu Trp Leu Ala  
                                  165                      170                      175  
 Leu Phe Ala Gly Phe Phe Gly Ser Ser Asp Val Gln Thr Leu Arg Ile  
                                  180                      185                      190  
 Pro Leu Tyr Thr Gly Gln Pro Gly Arg Glu Ala Tyr Ser Met Asp Gly  
                                  195                      200                      205  
 Lys Ala Tyr Tyr Leu Asp Tyr Glu Leu Glu Leu Tyr Ser Phe Asn Thr  
                                  210                      215                      220



Glu Tyr Tyr Pro Asn Gly Met Pro Ser Arg Phe Ala Ala Asp Val Arg  
 225 230 235 240  
 Ile Gly Asn Arg Arg Thr Thr Leu Glu Val Asn His Pro His Cys Tyr  
 245 250 255  
 Arg Leu Gly Glu Asp Ile Tyr Leu Thr Gly Tyr Asp Thr Arg Asn Met  
 260 265 270  
 Gly Asn Thr Arg Tyr Cys Ile Leu Gln Ile Val Arg Gln Pro Trp Lys  
 275 280 285  
 Tyr Val Met Val Val Gly Ile Leu Met Met Leu Thr Gly Ala Val Leu  
 290 295 300  
 Leu Phe Ile Asn Gly Pro Lys Lys Leu Lys His Asp Asn Leu Gly  
 305 310 315

<210> 5701  
 <211> 119  
 <212> PRT  
 <213> B.fragilis

<400> 5701  
 Phe Lys Ser Ile Lys Glu Met Asn Lys Ser Tyr Phe Glu Thr Arg Lys  
 1 5 10 15  
 Thr Glu Ile Gln Ser Glu Ile Asp Ser Trp Lys Gln Gly Leu Arg Asp  
 20 25 30  
 Leu Glu Asp Glu Tyr Ile Ser Ser Asn Gln Lys Phe Pro Ile Gly Ser  
 35 40 45  
 Lys Val Cys Ile Thr Thr Pro Ala His Glu Gly Trp Ala Leu Ser Thr  
 50 55 60  
 Arg Glu Lys Ile Thr Phe Pro Glu Arg Lys Arg Tyr Ser Tyr Val Thr  
 65 70 75 80  
 Gly Tyr Glu Ile Cys His Asn Glu Val Val Pro Ile Leu Met Lys Ala  
 85 90 95  
 Lys Lys Asp Gly Thr Ile Ser Lys Ile Arg Asp Tyr Ile Thr Leu Glu  
 100 105 110  
 Arg Val Ile Val Glu Leu Ala  
 115

<210> 5702  
 <211> 71  
 <212> PRT  
 <213> B.fragilis

<400> 5702  
 Phe Pro Pro Ile Leu Tyr Val Ile Pro Leu Asn Val Ser Asn Met Glu  
 1 5 10 15  
 Lys Val Leu Gln Cys Val Arg Leu Pro Gln Asn Gly Lys Gly Thr Ile  
 20 25 30  
 Gly Phe Asn Leu Lys Gly Glu Tyr Leu Lys Lys Tyr Gly Phe Gln Leu  
 35 40 45  
 Gly Asp Lys Val Lys Val Glu Ile Ser Lys Asn Lys Ile Val Leu Phe  
 50 55 60  
 Lys Thr Gly Asn Val Leu Glu  
 65 70

<210> 5703  
 <211> 1149  
 <212> PRT  
 <213> B.fragilis

<400> 5703



465	Leu	Asp	Ser	Trp	Phe	Ile	Arg	Ser	Thr	Ala	Cys	Lys	Glu	Arg	Met	Ile	480
					485					490						495	
Glu	Leu	Asn	Lys	Thr	Ile	Asn	Trp	Lys	Pro	Glu	Ser	Thr	Gly	Thr	Gly		
			500					505					510				
Arg	Phe	Gly	Lys	Trp	Leu	Glu	Asn	Leu	Asn	Asp	Trp	Asn	Leu	Ser	Arg		
		515					520					525					
Ser	Arg	Tyr	Trp	Gly	Thr	Pro	Leu	Pro	Ile	Trp	Arg	Thr	Glu	Asp	Asn		
	530					535					540						
Ser	Asp	Glu	Lys	Cys	Ile	Glu	Ser	Val	Glu	Glu	Leu	Tyr	Asn	Glu	Ile		
545					550				555						560		
Glu	Lys	Ser	Val	Ala	Ala	Gly	Tyr	Met	Gln	Ser	Asn	Pro	Tyr	Lys	Asp		
			565						570					575			
Lys	Gly	Phe	Val	Pro	Gly	Glu	Tyr	Asn	Glu	Glu	Asn	Tyr	Asn	Lys	Ile		
		580						585					590				
Asp	Leu	His	Arg	Pro	Tyr	Val	Asp	Asp	Ile	Ile	Leu	Val	Ser	Lys	Asp		
	595						600					605					
Gly	Lys	Pro	Met	Lys	Arg	Glu	Ala	Asp	Leu	Ile	Asp	Val	Trp	Phe	Asp		
610						615					620						
Ser	Gly	Ala	Met	Pro	Tyr	Ala	Gln	Ile	His	Tyr	Pro	Phe	Glu	Asn	Lys		
625					630				635						640		
Glu	Leu	Leu	Asp	Ser	His	Gln	Val	Tyr	Pro	Ala	Asp	Phe	Ile	Ala	Glu		
			645						650					655			
Gly	Val	Asp	Gln	Thr	Arg	Gly	Trp	Phe	Phe	Thr	Leu	His	Ala	Ile	Ala		
		660						665					670				
Thr	Met	Val	Phe	Asp	Ser	Val	Ser	Tyr	Lys	Ala	Val	Ile	Ser	Asn	Gly		
	675						680						685				
Leu	Val	Leu	Asp	Lys	Asn	Gly	Asn	Lys	Met	Ser	Lys	Arg	Leu	Gly	Asn		
690					695				700								
Ala	Val	Asp	Pro	Phe	Ser	Thr	Ile	Glu	Gln	Tyr	Gly	Ser	Asp	Pro	Leu		
705					710				715						720		
Arg	Trp	Tyr	Met	Ile	Thr	Asn	Ser	Ser	Pro	Trp	Asp	Asn	Leu	Lys	Phe		
			725						730					735			
Asp	Val	Asp	Gly	Ile	Glu	Glu	Val	Arg	Arg	Lys	Phe	Phe	Gly	Thr	Leu		
	740							745					750				
Tyr	Asn	Thr	Tyr	Ser	Phe	Phe	Ala	Leu	Tyr	Ala	Asn	Val	Asp	Gly	Phe		
	755						760						765				
Glu	Tyr	Lys	Glu	Ala	Asp	Leu	Pro	Met	Asn	Glu	Arg	Pro	Glu	Ile	Asp		
770						775					780						
Arg	Trp	Ile	Leu	Ser	Val	Leu	Asn	Thr	Leu	Val	Lys	Glu	Val	Asp	Thr		
785					790				795						800		
Cys	Tyr	Asn	Glu	Tyr	Glu	Pro	Thr	Lys	Ala	Gly	Arg	Leu	Ile	Ser	Asp		
		805							810					815			
Phe	Val	Asn	Asp	Asn	Leu	Ser	Asn	Trp	Tyr	Val	Arg	Leu	Asn	Arg	Lys		
		820						825					830				
Arg	Phe	Trp	Gly	Gly	Gly	Phe	Thr	Gln	Asp	Lys	Leu	Ser	Ala	Tyr	Gln		
	835						840						845				
Thr	Leu	Tyr	Thr	Cys	Leu	Glu	Thr	Val	Ala	Lys	Leu	Met	Ala	Pro	Ile		
850						855						860					
Ala	Pro	Phe	Tyr	Ala	Asp	Arg	Leu	Tyr	Ser	Asp	Leu	Ile	Gly	Val	Thr		
865					870				875						880		
Gly	Arg	Asp	Asn	Val	Ser	Val	His	Leu	Ala	Lys	Phe	Pro	Glu	Tyr			
			885						890					895			
Asn	Glu	Lys	Met	Val	Asp	Lys	Glu	Leu	Glu	Ala	Gln	Met	Gln	Met	Ala		
		900						905					910				
Gln	Asp	Val	Thr	Ser	Met	Val	Leu	Ala	Leu	Arg	Arg	Lys	Val	Asn	Ile		
	915						920						925				
Lys	Val	Arg	Gln	Pro	Leu	Gln	Cys	Ile	Met	Ile	Pro	Val	Val	Asp	Glu		
930						935									940		

Val Gln Lys Ala His Ile Glu Ala Val Lys Val Leu Ile Met Ser Glu  
 945 950 955 960  
 Val Asn Val Lys Glu Ile Lys Phe Val Asp Gly Ala Ala Gly Val Leu  
 965 970 975  
 Val Lys Lys Val Lys Cys Asp Phe Lys Lys Leu Gly Pro Lys Phe Gly  
 980 985 990  
 Lys Gln Met Lys Ala Val Ala Ala Val Ala Glu Met Ser Gln Glu  
 995 1000 1005  
 Ala Ile Ala Glu Leu Glu Lys Asn Gly Lys Tyr Thr Phe Asp Leu Gly  
 1010 1015 1020  
 Gly Ala Glu Ala Val Ile Glu Ser Ala Asp Val Glu Ile Phe Ser Glu  
 1025 1030 1035 1040  
 Asp Ile Pro Gly Trp Leu Val Ala Asn Glu Gly Lys Leu Thr Val Ala  
 1045 1050 1055  
 Leu Glu Val Thr Val Thr Asp Glu Leu Arg Arg Glu Gly Ile Ala Arg  
 1060 1065 1070  
 Glu Leu Val Asn Arg Ile Gln Asn Ile Arg Lys Ser Ser Gly Phe Glu  
 1075 1080 1085  
 Ile Thr Asp Lys Ile Lys Leu Thr Leu Ser Lys Asn Pro Gln Thr Asp  
 1090 1095 1100  
 Asp Ala Val Asn Glu Tyr Asn Ser Tyr Ile Cys Asn Gln Val Leu Gly  
 1105 1110 1115 1120  
 Thr Ser Leu Thr Leu Ala Asp Glu Val Lys Asp Gly Thr Glu Leu Asn  
 1125 1130 1135  
 Phe Asp Asp Phe Ser Leu Phe Val Asn Val Val Lys Glu  
 1140 1145

&lt;210&gt; 5704

&lt;211&gt; 181

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5704

Arg Gly Lys Ile Ser Pro Leu Ser Val Gly Arg Pro Arg Thr Ala Leu  
 1 5 10 15  
 Gly Lys Ser Phe Ala Ser Asn Phe Phe Ser Leu Ile Cys Cys Pro  
 20 25 30  
 Pro Pro Gln Lys Ser Ser His Met Arg Tyr Arg Ser Gly Thr Leu Cys  
 35 40 45  
 Arg Phe Ser Val Leu Tyr Val Ser Ala Cys Thr Gln Tyr Ile Cys Asn  
 50 55 60  
 Lys Lys Ala Met Asn Glu Ile Leu Asn Tyr Ile Met Val Phe Leu Phe  
 65 70 75 80  
 Gly Gly Gly Leu Val Gly Thr Ala Thr Ala Phe Val Thr Ile Lys Tyr  
 85 90 95  
 Thr Lys Lys Arg Ala Glu Ala Asp Ala Met Lys Ala Met Gln Asp Val  
 100 105 110  
 Tyr Gln Glu Met Ile Thr Asp Gln Arg Ser Tyr Ile Asn Ser Leu Lys  
 115 120 125  
 Gln Asp Lys Glu Asp Ser Glu Ala Arg Trp Glu Asn Lys Val Glu Thr  
 130 135 140  
 Leu Ser Lys Arg Ile Glu Thr Met Asp Leu Lys Ile Asn Glu Asn Asn  
 145 150 155 160  
 Arg Leu Ile Thr Glu Leu Lys Thr Met Lys Cys Thr Asp Leu Ile Cys  
 165 170 175  
 Gln Asn Arg Lys Gln  
 180

&lt;210&gt; 5705

<211> 424  
 <212> PRT  
 <213> B.fragilis

<400> 5705

Ile	Leu	Gly	Ile	Phe	Pro	Tyr	Phe	Cys	Arg	Ile	Leu	Asn	Glu	His	Ser	1	5	10	15
Ala	Met	Gln	Pro	Ser	Lys	Thr	Glu	Leu	Ile	Leu	Ile	Arg	Ile	Thr	Gly	20	25	30	
Glu	Asp	Arg	Pro	Gly	Leu	Thr	Ala	Ser	Val	Thr	Glu	Ile	Leu	Ala	Lys	35	40	45	
Tyr	Asp	Ala	Thr	Ile	Leu	Asp	Ile	Gly	Gln	Ala	Asp	Ile	His	Asn	Thr	50	55	60	
Leu	Ser	Leu	Gly	Ile	Leu	Cys	Met	Thr	Glu	Glu	Gln	Leu	Ser	Gly	Phe	65	70	75	80
Met	Met	Lys	Glu	Leu	Leu	Phe	Lys	Ala	Ser	Ser	Leu	Gly	Val	Thr	Ile	85	90	95	
Arg	Phe	Tyr	Pro	Ile	Thr	Glu	Glu	Glu	Tyr	Glu	Ser	Trp	Val	Asn	Met	100	105	110	
Gln	Gly	Lys	Asn	Arg	Tyr	Ile	Leu	Thr	Leu	Leu	Gly	Arg	Lys	Leu	Thr	115	120	125	
Ala	Arg	Gln	Ile	Ala	Ala	Val	Thr	Arg	Ile	Leu	Ala	Glu	Gln	Asp	Met	130	135	140	
Asn	Ile	Asp	Ala	Ile	Lys	Arg	Leu	Thr	Gly	Arg	Ile	Pro	Leu	Asp	Glu	145	150	155	160
Arg	Lys	Met	His	Thr	Arg	Ala	Cys	Ile	Glu	Phe	Ser	Val	Arg	Gly	Thr	165	170	175	
Pro	Arg	Asp	Lys	Glu	Ala	Met	Gln	Gly	Gln	Leu	Met	Lys	Leu	Ala	Ser	180	185	190	
Glu	Leu	Glu	Met	Asp	Phe	Ser	Phe	Gln	Leu	Asp	Asn	Met	Tyr	Arg	Arg	195	200	205	
Met	Arg	Arg	Leu	Ile	Cys	Phe	Asp	Met	Asp	Ser	Thr	Leu	Ile	Glu	Thr	210	215	220	
Glu	Val	Ile	Asp	Glu	Leu	Ala	Ile	Arg	Ala	Gly	Val	Gly	Ala	Glu	Val	225	230	235	240
Lys	Ala	Ile	Thr	Glu	Arg	Ala	Met	Arg	Gly	Glu	Ile	Asp	Phe	Thr	Glu	245	250	255	
Ser	Phe	Arg	Glu	Arg	Val	Ala	Leu	Leu	Lys	Gly	Leu	Asp	Glu	Ser	Val	260	265	270	
Met	Gln	Glu	Ile	Ala	Glu	Ser	Leu	Pro	Ile	Thr	Glu	Gly	Val	Asp	Arg	275	280	285	
Leu	Met	Tyr	Val	Leu	Lys	Lys	Tyr	Gly	Tyr	Lys	Ile	Ala	Ile	Leu	Ser	290	295	300	
Gly	Gly	Phe	Thr	Tyr	Phe	Gly	Gln	Tyr	Leu	Gln	Lys	Lys	Tyr	Gly	Val	305	310	315	320
Asp	Tyr	Val	Tyr	Ala	Asn	Glu	Leu	Glu	Ile	Val	Asp	Gly	Lys	Leu	Thr	325	330	335	
Gly	Arg	Tyr	Leu	Gly	Asp	Val	Val	Asp	Gly	Lys	Arg	Lys	Ala	Glu	Leu	340	345	350	
Leu	Arg	Leu	Ile	Ala	Gln	Val	Glu	Lys	Val	Asp	Ile	Ala	Gln	Thr	Ile	355	360	365	
Ala	Val	Gly	Asp	Gly	Ala	Asn	Asp	Leu	Pro	Met	Leu	Gly	Val	Ala	Gly	370	375	380	
Leu	Gly	Ile	Ala	Phe	His	Ala	Lys	Pro	Lys	Val	Val	Ala	Asn	Ala	Lys	385	390	395	400
Gln	Ser	Ile	Asn	Thr	Ile	Gly	Leu	Asp	Gly	Val	Leu	Tyr	Phe	Leu	Gly	405	410	415	
Phe	Lys	Asp	Ser	Tyr	Leu	Asn	Met	420											

<210> 5706  
 <211> 78  
 <212> PRT  
 <213> B.fragilis

<400> 5706  
 Met Asn His Phe Ser Leu Ile Thr Glu Lys Pro Val His Lys Asn Cys  
 1 5 10 15  
 Thr Gly Phe Phe Lys Gly Asn Arg Ile Phe Ser Arg Leu Pro Ser Gly  
 20 25 30  
 Met Ala Thr His Lys Gly Tyr Thr Ala Pro Ser Ile Tyr Gln Leu Cys  
 35 40 45  
 Asn Ile Tyr Asn Lys Thr Glu Leu Glu Val Leu Cys Ser Ala Ser Ala  
 50 55 60  
 His Val Leu Thr Val Tyr Phe His Ile Tyr Leu Ile Ile Gln  
 65 70 75

<210> 5707  
 <211> 353  
 <212> PRT  
 <213> B.fragilis

<400> 5707  
 Asn Leu Tyr Val Met Asn Tyr Gly Ile Ser Val Leu Phe Arg Ala Ile  
 1 5 10 15  
 Pro Leu Ala Met Ala Leu Phe Cys Phe Gly Tyr Gly Ala Phe Ile Ser  
 20 25 30  
 Ala Tyr Gly Asp Asp Ser Asn Arg Leu Val Ala Gly Pro Val Val Phe  
 35 40 45  
 Ser Leu Gly Met Ile Cys Ile Ala Leu Phe Ala Thr Ala Ala Thr Ile  
 50 55 60  
 Ile Arg Gln Ile Ile His Thr Tyr Gly Arg Gly Ser Leu Tyr Ala Leu  
 65 70 75 80  
 Pro Ile Ile Gly Tyr Leu Ala Ala Val Val Thr Ile Ile Gly Gly Ile  
 85 90 95  
 Cys Met Phe Thr Arg Ser Thr Ser Thr Ser Ser Phe Val Ala Gly His  
 100 105 110  
 Val Val Ala Gly Val Gly Leu Ile Thr Thr Cys Ile Ala Thr Ala Ala  
 115 120 125  
 Thr Ser Ser Thr Arg Phe Ser Leu Ile Pro Ala Asn Ser Lys Met Ile  
 130 135 140  
 Gly Asn Gly Ile Pro Glu Gly Ala Phe Thr Lys Gly Gln Glu Arg Ile  
 145 150 155 160  
 Leu Lys Thr Ile Ala Ile Thr Ile Ser Leu Ile Ala Trp Ile Trp Ala  
 165 170 175  
 Phe Val Leu Leu Ala Lys Ser Asp Val His Pro Ala Tyr Phe Val Ala  
 180 185 190  
 Gly His Val Met Val Gly Leu Ala Cys Ile Cys Thr Ser Leu Ile Ala  
 195 200 205  
 Leu Val Ala Thr Ile Ala Arg Gln Ile Arg Asn Val Tyr Thr Asp Arg  
 210 215 220  
 Glu Arg Lys Arg Trp Pro Lys Leu Val Leu Leu Met Gly Thr Val Ser  
 225 230 235 240  
 Leu Leu Trp Gly Leu Phe Val Ile Phe Ser Asp Ser Ser Thr Thr Asn  
 245 250 255  
 Gly Val Ile Gly Tyr Ile Met Ile Gly Leu Gly Leu Val Cys Tyr Ser  
 260 265 270  
 Ile Ser Ser Lys Val Ile Leu Leu Ala Lys Ile Trp Gly Arg Glu Phe

275	280	285
Ala Leu Ala Asn Arg Ile Pro Leu Ile Pro Val Leu Thr Ala Leu Ala		
290	295	300
Cys Leu Phe Leu Ala Ser Phe Val Phe Glu Leu Gly Thr Thr His Asp		
305	310	315
Asp Tyr Phe Ile Pro Ala Arg Val Leu Ala Gly Leu Gly Ala Ile Cys		
325	330	335
Phe Thr Leu Phe Ser Ile Val Ser Ile Leu Glu Ser Gly Thr Ser Ser		
340	345	350
Lys		

<210> 5708  
 <211> 1643  
 <212> PRT  
 <213> B.fragilis

<400> 5708

Glu Ile Pro Val Tyr Ile Pro Asn Ser Ser His Leu Asn Leu Ile Asp		
1	5	10
Met Ala Asp Gln Gln Ile Ile Asp Glu Leu Ile Asp Tyr Ile Asp		
20	25	30
Lys Ala Val Leu Lys His Ser Val Ser Asn Arg His Val Ala Glu Val		
35	40	45
Leu Tyr Trp Leu Asn Glu Gly Leu Lys Lys Val Ser Thr Asp Gly Leu		
50	55	60
Lys Asp Ile Phe Ile Ser Lys Lys Gln Ile Asp Glu Thr Asn Phe Leu		
65	70	75
Leu Arg Leu Leu Gly Gly Val Glu Phe Ser Ser Gly Asp Asp Pro Tyr		
85	90	95
Arg Ile Thr Gln Lys Gly Glu Ala Phe Leu Lys Lys Leu Thr Leu Asn		
100	105	110
Gly Gly Leu Ile Glu Tyr Asp Pro Thr Glu Arg Val Trp Lys Leu Asn		
115	120	125
Gly Asn Met Leu Ile Ser Gly Asn Ile Thr Phe Gly Trp Asp Asn Gly		
130	135	140
Thr Tyr Thr Ala Pro Thr Leu Leu Asp Leu Leu Pro Tyr Asp Pro Thr		
145	150	155
Thr Leu Ser Lys Glu Gly Gly Arg Leu Ser Val Ile Asn Ala Gly Ser		
165	170	175
Asp Phe Asp Glu Leu Ala Met Trp Gly Val Leu Ser Lys Glu Gly Val		
180	185	190
Gln Gln Ile Asp Lys Ser His Leu Ser Gly Ala Leu Ala Gly Tyr Ala		
195	200	205
Thr Glu Lys Phe Val Thr Asp Lys Gly Tyr Ile Thr Ser Ser Ala Leu		
210	215	220
Thr Gly Tyr Ala Thr Glu Thr Phe Val Arg Glu Asn Phe Val Thr Leu		
225	230	235
Ala Gly Ala Gln Glu Ile Thr Gly Glu Lys Asp Phe Thr Gly Gly Leu		
245	250	255
Lys Val Asn Gly Gly Leu Leu Asp Tyr Asp Pro Thr Glu Arg Val Trp		
260	265	270
Lys Leu Asn Gly Asn Met Leu Ile Ser Gly Asn Ile Thr Phe Gly Trp		
275	280	285
Asp Asn Gly Thr Tyr Thr Ala Pro Thr Leu Leu Asp Leu Leu Pro Tyr		
290	295	300
Asp Pro Thr Thr Leu Ser Lys Glu Gly Gly Arg Leu Ser Val Ile Gly		
305	310	315
Ser Ala Gly Ser Ser Phe Asp Glu Ser Ser Met Trp Thr Ala Leu Leu		







## 2450

1265                      1270                      1275                      1280  
 Asp Thr Leu Trp Ile Asn Gly Tyr Gly Gly Thr Asp Val Pro Asp Met  
                                  1285                      1290                      1295  
 Cys Ala Leu His Phe Ser Arg Gly Gly Ala Pro Leu Ile Tyr Ile Ser  
                                  1300                      1305                      1310  
 Ser Gln Lys Tyr His Ala Thr Ser Tyr Gly Thr Met Tyr His Ile Trp  
                                  1315                      1320                      1325  
 Thr Gly Tyr Asn Ser Asn His Ser Ser Ala Ala Trp Thr Cys Ser Thr  
                                  1330                      1335                      1340  
 Leu Asn Ala Asn Gly Arg Ile Ser Thr Thr Ser Asp Ile Tyr Ser Ala  
 1345                      1350                      1355                      1360  
 Gly Trp Val Arg Ala Gly Gly Ser Asn Gly Phe Tyr Cys Glu Ser Tyr  
                                  1365                      1370                      1375  
 Gly Gly Gly Ile His Met Thr Asp Ser Thr Trp Val Arg Val Tyr Asn  
                                  1380                      1385                      1390  
 Gly Lys Gln Phe Tyr Val Ser Ser Thr Ser Ser Asp Ala Ile His Thr  
                                  1395                      1400                      1405  
 Ala Gly Gly Ile Asn Ala Ser Gly Arg Ile Tyr Ala Gly Gly His Leu  
                                  1410                      1415                      1420  
 Ser Thr Asn Gly Gly Leu Ala Val Ser Gly Ile Tyr Gly Gly Ser Gly  
 1425                      1430                      1435                      1440  
 Ala Ser Gly Phe Asn Val Tyr Ala Val Phe Gln Gly Arg Ser Asp His  
                                  1445                      1450                      1455  
 Gly Gly Ile Glu Val Arg Ala Ser Asp Asn Thr Phe Gly Ile Gly Val  
                                  1460                      1465                      1470  
 His Ser Asn Asp His Met Tyr Trp Trp Trp Gly Thr Ser Thr Ser Thr  
                                  1475                      1480                      1485  
 Asn Ser Ser Ser Gly Lys Ser Tyr Ile Met Asp Tyr Gly Gly Gly Asn  
                                  1490                      1495                      1500  
 Trp Ser Phe Thr Gly Asn His Tyr Val Ser Gly Tyr Ser Thr Trp Gly  
 1505                      1510                      1515                      1520  
 Ser Asp Ser Arg Tyr Lys Thr Tyr Leu Gly Glu Val Thr Leu Gln Leu  
                                  1525                      1530                      1535  
 Asp Gln Ile Ala Asp Ser Pro Thr Ile Tyr Tyr Arg Trp Asn Ser Lys  
                                  1540                      1545                      1550  
 Lys Arg Asp Arg Asp Gly Leu Leu His Val Gly Gly Tyr Ala Gln Tyr  
                                  1555                      1560                      1565  
 Thr Glu Gln Ile Leu Pro Glu Leu Thr His Asp Thr Ser Asn Phe Lys  
                                  1570                      1575                      1580  
 Thr Met Asp Tyr Ala Val Cys Ala Tyr Val Tyr Ala Val His Ala Ala  
 1585                      1590                      1595                      1600  
 Arg Phe Leu Arg Asp His Leu Leu Ser Asp Tyr Lys Trp Lys Ser Asp  
                                  1605                      1610                      1615  
 Thr Glu Leu Arg Met Tyr Ala Leu Glu Lys Glu Asn Ile Lys Leu Arg  
                                  1620                      1625                      1630  
 Asn Arg Ile Glu Gln Leu Glu Arg Arg Ala Ala  
                                  1635                      1640

&lt;210&gt; 5709

&lt;211&gt; 130

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5709

Thr Val Lys Val Met Ala Glu Lys Thr Arg Tyr Ser Asp Ala Glu Leu  
 1                                      5                                      10                                      15  
 Glu Glu Phe Arg Ala Ile Ile Asn Glu Lys Leu Glu Leu Ala Gln Arg  
    20                                      25                                      30  
 Asp Tyr Glu Gln Leu Lys Leu Ser Leu Met Gly Leu Asp Gly Asn Asp

35	40	45
Thr Asp Thr Ser Pro Thr Tyr Lys Val Leu Glu Glu Gly Ala Asn		
50	55	60
Thr Leu Ser Lys Glu Glu Thr Thr Arg Leu Ala Gln Arg Gln Leu Lys		
65	70	75
Phe Ile Gln Gly Leu Gln Ala Ala Leu Val Arg Ile Glu Asn Lys Thr		
85	90	95
Tyr Gly Ile Cys Arg Glu Thr Gly Lys Leu Ile Pro Ala Glu Arg Leu		
100	105	110
Arg Ala Val Pro His Ala Thr Leu Ser Ile Glu Ala Lys Asn Ser Gly		
115	120	125
Lys Lys		
130		

<210> 5710  
 <211> 253  
 <212> PRT  
 <213> B.fragilis

<400> 5710
Met Ser Ile Leu Ser Lys Asn Arg Ile Lys Tyr Ile Arg Ser Leu Glu
1 5 10 15
Leu Lys Lys Ile Arg Lys Glu Glu Lys Val Phe Leu Ala Glu Gly Pro
20 25 30
Lys Leu Val Gly Asp Val Leu Gly Tyr Phe Pro Cys Lys Leu Leu Ile
35 40 45
Ala Thr Ser Asp Trp Leu Glu Glu His Pro Ala Val Gln Ala Ala Glu
50 55 60
Val Ile Glu Val Thr Ser Glu Glu Leu Ser Arg Thr Ser Leu Leu Lys
65 70 75 80
Thr Pro Gln Gln Val Leu Ala Leu Phe Glu Gln Pro Glu Tyr Glu Ile
85 90 95
Asp Met Glu Ala Ile Arg Asn Ser Leu Cys Leu Ala Leu Asp Asn Ile
100 105 110
Gln Asp Pro Gly Asn Leu Gly Thr Ile Ile Arg Leu Ala Asp Trp Phe
115 120 125
Gly Ile Glu His Ile Phe Cys Ser Pro Asn Thr Val Asp Val Phe Asn
130 135 140
Pro Lys Thr Ile Gln Ala Thr Met Gly Gly Ile Ala Arg Val Lys Val
145 150 155 160
Tyr Tyr Thr Ala Leu Pro Asp Leu Met His Ser Leu Gly Asn Val Pro
165 170 175
Val Tyr Gly Thr Leu Leu Asp Gly Glu Asn Met Tyr Glu Gln Pro Leu
180 185 190
Ser Lys Asn Gly Ile Ile Ile Met Gly Asn Glu Gly Asn Gly Ile Ser
195 200 205
Pro Glu Ile Glu Lys Leu Val Asn Arg Lys Leu Tyr Ile Pro Asn Tyr
210 215 220
Pro Ala Glu Arg Glu Thr Ser Glu Ser Leu Asn Val Ala Ile Ala Thr
225 230 235 240
Ala Ile Val Cys Ala Glu Phe Arg Arg Gln Ala Ala Leu
245 250

<210> 5711  
 <211> 343  
 <212> PRT  
 <213> B.fragilis

<400> 5711

Gln Tyr Val Phe Leu Pro Ser Val Asn Asp Ser Asn Cys Arg Lys Tyr  
 1 5 10 15  
 Arg Lys Pro Gly Ser Leu Tyr Asn Gln Phe Phe Arg Ser Ser His Thr  
 20 25 30  
 Leu Lys Arg Tyr Glu Gly Leu Ile Val Phe Tyr Arg Val Cys His Phe  
 35 40 45  
 Val Ser Ser Leu Phe Leu Ser Tyr Leu Cys His Gln Thr Ile Lys Lys  
 50 55 60  
 Thr Lys Met Lys Thr Tyr Pro Val Val Leu Ser Ile Ala Gly Ser Asp  
 65 70 75 80  
 Cys Ser Gly Gly Ala Gly Ile Gln Ala Asp Ile Lys Thr Ile Ser Ala  
 85 90 95  
 Leu Gly Ala Tyr Ala Ala Ser Val Ile Thr Ala Val Thr Val Gln Asn  
 100 105 110  
 Thr Arg Gly Val Lys Ala Val His Thr Val Pro Ala Glu Ile Val Gln  
 115 120 125  
 Gly Gln Ile Glu Ala Val Met Glu Asp Leu Arg Pro Asp Ala Leu Lys  
 130 135 140  
 Ile Gly Met Val Ser Glu Pro Ala Leu Val Lys Ile Ile Ala Gly Cys  
 145 150 155 160  
 Leu Leu Lys Tyr Pro His Cys Pro Ile Val Tyr Asp Pro Val Met Val  
 165 170 175  
 Ser Thr Ser Gly Arg Lys Leu Met Ala Lys Asp Ala Ile Gln Leu Ile  
 180 185 190  
 Lys Glu Glu Leu Phe Pro Leu Thr Ser Leu Ile Thr Pro Asn Leu Asp  
 195 200 205  
 Glu Thr Glu Val Leu Thr Gly Lys Lys Ile Thr Thr Ala Glu Glu Met  
 210 215 220  
 Lys Glu Ala Ala Arg Gln Leu Ser Glu Glu Tyr His Thr Ala Val Leu  
 225 230 235 240  
 Val Lys Gly Gly His Leu Glu Gly Asn Glu Met Gln Asp Val Leu Phe  
 245 250 255  
 Thr Asp Gly Asn Ala Tyr Ile Tyr Lys Glu Lys Lys Ile Glu Ser Arg  
 260 265 270  
 Asn Leu His Gly Thr Gly Cys Thr Leu Ser Ser Ser Ile Ala Thr Tyr  
 275 280 285  
 Leu Ala Leu Gly Leu Pro Met Asp Gln Ala Val Gly Lys Ala Lys Ser  
 290 295 300  
 Tyr Val Ser Lys Ala Ile Asp Ala Gly Lys Glu Ile Ile Ile Gly His  
 305 310 315 320  
 Gly Asn Gly Pro Leu Cys His Phe Trp Gly Pro Glu Lys Ala Arg Ile  
 325 330 335  
 Trp Asp Asp Asn Lys Val Glu  
 340

&lt;210&gt; 5712

&lt;211&gt; 68

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5712

Asn Ile Ser Phe Asn Pro Arg Leu Val Leu Thr Gly Val Met Gln Val  
 1 5 10 15  
 Arg Phe Val Lys Lys Leu Phe Pro Leu Lys Ile Phe Phe Arg Ile Ile  
 20 25 30  
 Ser Asn Asp Leu Leu Tyr Trp Leu Lys Glu Ile Gly Trp Gly Cys His  
 35 40 45  
 Ile Ile Gly Tyr Leu Lys Gly Val Thr Thr Asp Val Gln Phe Val Lys  
 50 55 60

Pro Phe Arg Leu  
65

<210> 5713

<211> 66

<212> PRT

<213> B.fragilis

<400> 5713

Ile	Leu	Thr	Ser	Lys	Lys	Met	His	Cys	Phe	Lys	Lys	Ala	Met	His	Phe
1				5					10					15	
Leu	Ser	Val	Leu	Gln	Lys	Lys	Tyr	Asn	Val	Ser	Ile	Phe	Leu	Ile	Ser
			20					25					30		
Asp	Leu	Leu	Tyr	Gln	Gln	Tyr	Lys	Lys	Ser	Asn	Tyr	Gly	Leu	Ser	Ile
		35				40						45			
Phe	Leu	Ser	Ile	Leu	Phe	Val	His	Tyr	Met	Asp	Ile	Tyr	Arg	Lys	Lys
	50					55					60				
Tyr	Thr														
65															

<210> 5714

<211> 413

<212> PRT

<213> B.fragilis

<400> 5714

Met	Asn	Asn	Ser	Pro	Gln	Pro	Ala	Ala	Lys	Gly	Phe	Thr	Arg	Ala	Phe
1				5					10					15	
Tyr	Val	Ser	Asn	Thr	Val	Glu	Leu	Phe	Glu	Arg	Met	Ala	Tyr	Tyr	Ala
			20					25					30		
Val	Phe	Ile	Val	Leu	Thr	Ile	Tyr	Leu	Ser	Thr	Ile	Leu	Gly	Phe	Asn
		35				40						45			
Asp	Phe	Glu	Ala	Ser	Met	Ile	Ser	Gly	Leu	Phe	Ser	Gly	Gly	Leu	Tyr
	50					55					60				
Leu	Leu	Pro	Ile	Phe	Thr	Gly	Ala	Tyr	Ala	Asp	Lys	Ile	Gly	Phe	Arg
65					70					75					80
Lys	Ser	Met	Leu	Val	Ala	Phe	Ser	Leu	Leu	Thr	Ala	Gly	Tyr	Phe	Gly
			85						90					95	
Leu	Gly	Val	Leu	Pro	Thr	Leu	Leu	Glu	Ser	Thr	Gly	Leu	Val	Ser	Tyr
			100					105					110		
Gly	Ala	Ser	Thr	His	Phe	Ser	Gly	Leu	Thr	Asp	Ser	Val	Phe	Arg	Trp
		115					120					125			
Leu	Ile	Val	Pro	Val	Leu	Phe	Ile	Ile	Met	Ile	Gly	Gly	Ser	Phe	Ile
	130					135					140				
Lys	Ser	Val	Ile	Ser	Ala	Ser	Val	Ala	Lys	Glu	Thr	Thr	Glu	Ala	Thr
145					150					155					160
Arg	Ala	Arg	Gly	Tyr	Ser	Ile	Phe	Tyr	Met	Met	Val	Asn	Ile	Gly	Ala
			165						170					175	
Phe	Thr	Gly	Lys	Thr	Val	Ile	Asp	Pro	Leu	Arg	Asn	Met	Ile	Gly	Asp
		180						185					190		
Gln	Ala	Tyr	Ile	Tyr	Ile	Asn	Tyr	Phe	Ser	Gly	Phe	Met	Thr	Leu	Ile
		195				200						205			
Ala	Leu	Leu	Ala	Val	Phe	Phe	Leu	Tyr	Lys	Ser	Thr	His	Thr	Val	Gly
	210					215					220				
Glu	Gly	Lys	Ser	Met	Arg	Glu	Ile	Gly	Gln	Gly	Phe	Leu	Arg	Ile	Val
225					230					235					240
Thr	Asn	Trp	Arg	Leu	Leu	Ile	Leu	Ile	Leu	Ile	Ile	Thr	Gly	Phe	Trp
			245						250					255	
Met	Val	Gln	His	Gln	Leu	Tyr	Ala	Thr	Met	Pro	Lys	Tyr	Val	Ile	Arg

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      260              265              270
Met Ala Gly Glu Thr Ala Lys Pro Gly Trp Ile Ala Asn Val Asn Pro
      275              280              285
Phe Val Val Val Cys Cys Val Ser Phe Val Thr Arg Trp Met Ala Lys
      290              295              300
Arg Ser Ala Ile Thr Ser Met Asn Ile Gly Met Phe Leu Ile Pro Val
      305              310              315              320
Ser Ala Leu Leu Met Ala Cys Gly Asn Leu Leu Asp Asn Glu Val Val
      325              330              335
Ser Gly Met Ser Asn Ile Thr Leu Met Met Ile Val Gly Ile Val Val
      340              345              350
Gln Gly Leu Ala Glu Cys Phe Ile Ser Pro Arg Tyr Leu Glu Tyr Phe
      355              360              365
Ser Leu Gln Ala Pro Lys Gly Glu Glu Gly Met Tyr Leu Gly Phe Lys
      370              375              380
Ser Ser Ser Phe Phe Phe Ile Phe His Phe Arg Ile Trp Ser Cys Arg
      385              390              395              400
Arg Ser Ala Asp Gln Val Leu Ser Gly Ser Asn Phe Val
      405              410

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&lt;210&gt; 5715

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5715

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Lys Lys Tyr Ser Ser Met Ile Ser Asp Thr Thr Ile Arg Lys Leu Val
1      5      10      15
Asp Tyr Ile Ser Leu Asn Ala Cys Ser Val Asn Ser Ser Gly Leu Tyr
      20      25      30
Asn Gly Lys Ser Gly Ile Ser Leu Ala Leu Phe Glu Thr Ala Lys Cys
      35      40      45
Leu Gln Asp Thr Glu Ile Glu Asp Lys Ala Phe Ser Leu Phe Gln Glu
      50      55      60
Ser Leu Ile Arg Lys Thr Asn Asp Tyr Gly Phe Glu Asn Gly Met Ser
      65      70      75      80
Gly Ile Gly Tyr Val Leu Ile Tyr Leu Ile Thr Asn Lys Leu Ile Asp
      85      90      95
Ala Asp Phe Glu Asp Leu Phe Gly Asp Gln Arg Glu Ala Ile Ile Lys
      100      105      110
His Phe Glu Asn Ile Asp Lys Gln Pro Asp Lys Leu Leu Val Ser Tyr
      115      120      125
Lys Ile Ile Tyr Phe Leu Phe Val Leu Asp Lys Leu Gln Lys Gln Asp
      130      135      140
Glu Arg Ile Tyr Ser Ile Ile Glu Lys Ile Phe Gln Gly Leu Glu Leu
      145      150      155      160
Tyr Leu Ser Leu Gln Phe Phe Asp Trp Lys Asn Ile Tyr Tyr Ile Asn
      165      170      175
Ser Lys Asp Tyr Val Leu Gln Met Tyr Glu Ala Tyr Leu Lys Leu Val
      180      185      190
Asp Phe Cys Asn Tyr Lys Tyr Phe Ser Lys Ser Leu Met Asp Ser Tyr
      195      200      205
Val Thr Leu Tyr Ser Glu Gly Arg Ile Ala Ser Ser Leu Val Arg Gly
      210      215      220
Tyr Tyr Leu Gly Ser Ile Ile Thr Lys Asn Asn Met Val Gly Phe Asn
      225      230      235      240
Asp Val Ile Arg Asp His Ile Arg Tyr Gly Gln Lys Asn Ile Asn Pro
      245      250      255
Ala Ile Leu Phe Leu Asp Gln Lys Ile Asn Leu Thr Gly Ile Ile Glu

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260 265 270  
 Asn Ala Asp Glu Asn Arg Val Lys Ile Gln Arg Ile Glu Met Asp Leu  
 275 280 285  
 Phe Glu Glu Ser Leu Glu Arg Ile Lys Arg Met Val Arg Pro Asn Cys  
 290 295 300  
 Ile His Val Gly Tyr Gln Tyr Gly Leu Ala Arg Tyr Leu Gly Phe Cys  
 305 310 315 320  
 Ala Asn Lys Lys Phe Pro Leu Leu  
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<210> 5716  
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 <212> PRT  
 <213> B.fragilis

<400> 5716  
 Met Met Ala Ser Val Ser Arg Ile Leu Ala Arg Asn Leu Phe Pro Ser  
 1 5 10 15  
 Pro Ser Pro Leu Leu Ala Pro Phe Thr Ser Pro Ala Ile Ser Thr Ile  
 20 25 30  
 Ser Thr Val Val Gly Thr Met Arg Leu Gly Cys Thr Ser Ser Ala Ser  
 35 40 45  
 Leu Phe Lys Arg Ser Ser Gly Thr Val Ile Thr Pro Thr Phe Gly Ser  
 50 55 60  
 Ile Val Gln Lys Gly Lys Phe Ala Ala Cys Ala Phe Ala Leu Asp Arg  
 65 70 75 80  
 Gln Leu Lys Ser Val Asp Leu Pro Thr Phe Gly Ser Pro Thr Ile Pro  
 85 90 95  
 His Cys Asn Ala Ile Ile Leu  
 100

<210> 5717  
 <211> 204  
 <212> PRT  
 <213> B.fragilis

<400> 5717  
 Arg Val Gly Ser Tyr Cys Gly Ser Ser His Glu Arg Arg Thr Phe Gly  
 1 5 10 15  
 Asn Cys Phe Leu Leu Arg Ile Ile Leu Lys Arg Ile Ile Tyr Lys Lys  
 20 25 30  
 Asp Leu Asp Met Met Lys Pro Ile Ala Val Asn Gln Leu Ser Asp Asn  
 35 40 45  
 Phe Phe Glu Thr Ile Ser Lys Glu Trp Met Leu Val Thr Ala Gly Asn  
 50 55 60  
 Lys Asp Ala Phe Asn Thr Met Thr Ala Asn Trp Gly Gly Ile Gly Phe  
 65 70 75 80  
 Leu Trp Asn Lys Pro Val Val Tyr Val Phe Ile Arg Pro Glu Arg Tyr  
 85 90 95  
 Thr Phe Gly Phe Met Glu Lys Asn Asp Tyr Phe Thr Leu Ser Phe Leu  
 100 105 110  
 Gly Glu Glu Asn Lys Ser Ile His Lys Ile Cys Gly Ser Lys Ser Gly  
 115 120 125  
 Arg Glu Val Asp Lys Ile Lys Glu Thr Gly Leu Lys Pro Met Ile Thr  
 130 135 140  
 Asp Lys Gly Asn Val Leu Phe Glu Gln Gly Arg Leu Ser Leu Glu Cys  
 145 150 155 160  
 Arg Lys Leu Tyr Thr Asp Val Leu Arg Lys Glu Asn Phe Leu Asp Pro  
 165 170 175

Ser Val Tyr Glu Gln Trp Tyr Thr Thr His Gly Gly Leu His His Val  
 180 185 190  
 Tyr Val Ala Glu Ile Thr Ser Ala Trp Ile Lys Asp  
 195 200

<210> 5718  
 <211> 64  
 <212> PRT  
 <213> B.fragilis

<400> 5718  
 Asn Ile Asn Thr Lys Lys Asn Asn Thr Trp Ser Phe Val Ile Glu Phe  
 1 5 10 15  
 Ile Phe Asn Ile Ile Tyr Lys Asp Tyr Gln Tyr Leu Val Ser Ser Gly  
 20 25 30  
 Ser Ser Ser Phe Arg Gln Thr Ile Ser Gln Pro Phe Arg Ile Pro Tyr  
 35 40 45  
 His Ile Thr Ile Asp Thr Pro Asp Phe Thr Thr Gly Arg Asn Asp Ser  
 50 55 60

<210> 5719  
 <211> 316  
 <212> PRT  
 <213> B.fragilis

<400> 5719  
 Lys Glu Trp Phe Val Pro Ile Val Tyr Met Leu Asp Ile Asn Met Asp  
 1 5 10 15  
 Trp Pro Val Ile Leu Ala Phe Ala Arg Ile Lys Asn Phe Leu Tyr Phe  
 20 25 30  
 Asn Asn Leu Ile Thr Met Cys Glu Ile Ser Val Val Met Pro Val Tyr  
 35 40 45  
 Asn Ala Glu Met His Ile Lys Asp Ala Ile Glu Ser Val Leu Glu Gln  
 50 55 60  
 Ser Phe Val Asp Phe Glu Phe Ile Leu Ile Asp Asp Gly Ser Thr Asp  
 65 70 75 80  
 Arg Thr Ser Ser Ile Ile Gln Ser Tyr Asn Asp Lys Arg Val Arg Leu  
 85 90 95  
 Ile Gln Asn Ser His Asn Phe Ile Glu Ser Leu Asn Leu Gly Ile Glu  
 100 105 110  
 Asn Ser Leu Gly Lys Tyr Met Ala Arg Met Asp Gly Asp Ile Met  
 115 120 125  
 His Ile Asp Arg Leu Lys Ile Gln Tyr Ala Ile Met Gln Glu Tyr Pro  
 130 135 140  
 Asp Val Thr Val Cys Gly Thr Trp Met Asn Ser Ile Gly Thr Tyr Ser  
 145 150 155 160  
 Gln Thr Asn Gly Leu Leu Ser Thr Leu Ser Gly Leu Val Glu Gln Pro  
 165 170 175  
 Leu Leu Lys Phe Thr Lys Gly Asn Phe Leu Phe His Pro Thr Thr Met  
 180 185 190  
 Ile Arg Met Asp Phe Leu Lys Lys Asn Ala Leu Lys Tyr Glu Asn Cys  
 195 200 205  
 Pro Tyr Ala Glu Asp Phe Lys Phe Trp Val Glu Ile Ala Lys Ser Gly  
 210 215 220  
 Gly Arg Phe Tyr Ile Asp Ser Gln Pro Leu Leu Tyr Tyr Arg Ile Ser  
 225 230 235 240  
 Asp Ser Gln Val Ser Ser Gln Lys Ser Ser Glu Gln Arg Ala Thr Thr  
 245 250 255  
 Glu Ser Ile Ile Asn Glu Val Leu Glu Tyr Leu Met Glu Leu Asn Lys



260 265 270  
 Asn Glu Tyr Pro Glu Leu Ala Ala Tyr Gly Asp Leu Cys Lys Leu  
 275 280 285  
 Tyr Glu Lys Gln Leu Leu Thr Lys Cys Glu Val Leu Thr Leu Phe Gln  
 290 295 300  
 Thr Leu Phe Ser Lys Asn Glu Lys Lys Leu Asn Leu  
 305 310 315

<210> 5720  
 <211> 208  
 <212> PRT  
 <213> B.fragilis

<400> 5720  
 Arg His Ile Thr Asp Lys Arg Asn Tyr Gln Ser Lys Ile Asn Gln Ile  
 1 5 10 15  
 Met Thr Lys Ser Ile Lys Gly Thr Gln Thr Glu Lys Asn Leu Leu Thr  
 20 25 30  
 Ser Phe Ala Gly Glu Ser Gln Ala Arg Met Arg Tyr Thr Tyr Phe Ala  
 35 40 45  
 Ser Val Ala Lys Lys Glu Gly Tyr Glu Gln Ile Ala Ala Ile Phe Thr  
 50 55 60  
 Glu Thr Ala Asp Gln Glu Lys Glu His Ala Lys Arg Met Phe Lys Phe  
 65 70 75 80  
 Leu Glu Gly Gly Met Val Glu Ile Thr Ala Ser Tyr Pro Ala Gly Val  
 85 90 95  
 Ile Gly Asn Thr Leu Gln Asn Leu Gln Ala Ala Ala Ala Gly Glu His  
 100 105 110  
 Glu Glu Trp Ser Leu Asp Tyr Pro His Phe Ala Asp Val Ala Glu Gln  
 115 120 125  
 Glu Gly Phe Pro Met Ile Ala Ala Met Tyr Arg Asn Ile Ser Ile Ala  
 130 135 140  
 Glu Lys Gly His Glu Glu Arg Tyr Leu Ala Phe Val Lys Asn Ile Glu  
 145 150 155 160  
 Val Ala Ser Val Phe Ala Lys Glu Gly Glu Val Val Trp Gln Cys Arg  
 165 170 175  
 Asn Cys Gly Tyr Ile Glu Val Gly Lys Glu Ala Pro Glu Val Cys Pro  
 180 185 190  
 Ala Cys Leu His Pro Gln Ala Tyr Phe Glu Ile Lys Lys Glu Asn Tyr  
 195 200 205

<210> 5721  
 <211> 682  
 <212> PRT  
 <213> B.fragilis

<400> 5721  
 Asn Thr Ile Thr Thr Leu Asp Met Asn Glu Ser Ile Ser Ile Leu Ser  
 1 5 10 15  
 Ile Phe Leu Leu Val Asn Met Thr Leu Ile Thr Ser Thr Cys His Ala  
 20 25 30  
 Gln Asn Arg Ser Asp Tyr Pro Trp Glu Glu Val Met Glu Asn Leu Ser  
 35 40 45  
 Ile Ser Asp Glu Glu Gly Asp Ile Arg Asn Trp Glu Asn Glu Leu Glu  
 50 55 60  
 Glu Leu Thr Asp Leu Val Asn Asn Pro Val Asn Ile Asn Ser Ala Thr  
 65 70 75 80  
 Lys Glu Gln Leu Gln Arg Phe Pro Phe Leu Asn Asp Val Gln Ile Glu  
 85 90 95

Asn Leu Leu Ala Tyr Ile Tyr Ile His Gly Ser Met Gln Thr Val Tyr  
 100 105 110  
 Glu Leu Gln Leu Val Glu Glu Leu Asp Arg Gln Thr Ile Gln Tyr Leu  
 115 120 125  
 Leu Pro Phe Val Cys Val Glu Pro Val Asp Lys Lys Glu Ser Val Thr  
 130 135 140  
 Leu Lys Gln Ile Leu Lys Tyr Gly Lys His Glu Ala Val Thr Arg Met  
 145 150 155 160  
 Asp Val Pro Leu Tyr Lys Arg Lys Gly Tyr Glu Lys Asn Tyr Leu Gly  
 165 170 175  
 Pro Ala Val Tyr Asn Ser Val Lys Tyr Gly Phe His Tyr Arg Glu Lys  
 180 185 190  
 Val Tyr Ala Gly Ile Val Ala Glu Lys Asp Ser Gly Glu Pro Phe Gly  
 195 200 205  
 Ala Leu His Asn Lys Gln Gly Tyr Asp Tyr Tyr Ser Phe Tyr Leu Leu  
 210 215 220  
 Leu His Asp Ile Gly Ile Leu Lys Thr Gly Ile Val Gly Asn Tyr Arg  
 225 230 235 240  
 Leu Asn Phe Gly Gln Gly Leu Val Leu Gly Gln Gly Ser Met Phe Gly  
 245 250 255  
 Lys Thr Ala Tyr Ser Ser Ser Phe Thr Phe Arg Ser Thr Gly Ile Arg  
 260 265 270  
 Arg His Thr Ser Thr Asp Glu Tyr Asn Tyr Phe Arg Gly Ser Gly Ile  
 275 280 285  
 Ala Leu Lys Trp Lys Gln Trp Thr Leu Ser Val Phe Tyr Ser His Arg  
 290 295 300  
 Ser Leu Asp Gly Val Ile Lys Gly Gly Glu Ile Thr Ser Ile Tyr Lys  
 305 310 315 320  
 Thr Gly Leu His Arg Ser Glu Lys Glu Ala Asp Lys Met Asn Gln Leu  
 325 330 335  
 Thr Met Gln Met Ser Gly Gly Asn Ile Ser Tyr Thr Gly Asn Ser Tyr  
 340 345 350  
 Gln Leu Gly Ile Thr Gly Val Tyr Tyr Cys Phe Asn Arg Ser Tyr Glu  
 355 360 365  
 Pro Glu Leu Lys Asp Tyr Ser Lys Tyr Asn Leu His Gly Arg Ser Phe  
 370 375 380  
 Tyr Asn Leu Gly Met Asp Tyr Lys Tyr Arg Phe His Arg Phe Ser Ile  
 385 390 395 400  
 Gln Gly Glu Ala Ala Leu Gly Ile Ser Gly Met Ala Phe Met Asn Gln  
 405 410 415  
 Val Leu Tyr Ser Pro Leu Gln Asp Ile Arg Leu Met Leu Val His Arg  
 420 425 430  
 Tyr Tyr Ser His Asp Tyr Trp Ala Met Phe Ala His Ser Phe Ser Glu  
 435 440 445  
 Gly Ser Ser Val Gln Asn Glu Asn Gly Trp Tyr Leu Ala Ala Ser Val  
 450 455 460  
 Asn Pro Phe Asn Arg Trp Thr Phe Phe Val Ser Ala Asp Leu Phe Ser  
 465 470 475 480  
 Phe Pro Trp Trp Arg Tyr Arg Ile Ser Lys Ala Ser Lys Gly Val Asp  
 485 490 495  
 Leu Leu Phe Gln Ala Asn Tyr Val Pro Ser Lys Thr Val Asp Met Tyr  
 500 505 510  
 Val Asn Tyr Arg Tyr Lys Gln Lys Glu Arg Asp Val Thr Gly Thr Gln  
 515 520 525  
 Gly Lys Val Ile Leu Pro Thr Tyr His His Arg Leu Arg Tyr Arg Leu  
 530 535 540  
 Asn Tyr Leu Arg Cys Ser Ser Leu Phe Leu Arg Thr Thr Val Asp Tyr  
 545 550 555 560  
 Asn His Phe His Ser Ser Gly Lys Thr Ala Gly Gln Gly Tyr Gln Leu

				565					570					575			
Thr	Gln	Thr	Ala	Gly	Trp	Lys	Leu	Pro	Trp	Leu	Pro	Leu	Thr	Ala	Glu		
			580						585					590			
Leu	Gln	Gly	Ser	Tyr	Phe	His	Thr	Asp	Asp	Tyr	Asp	Ser	Arg	Ile	Tyr		
		595					600					605					
Ile	Tyr	Glu	Lys	Gly	Leu	Leu	Tyr	Ser	Phe	Tyr	Thr	Pro	Ser	Phe	Gln		
	610					615					620						
Gly	Glu	Gly	Ile	Arg	Leu	Ala	Ile	Tyr	Phe	Arg	Tyr	Asp	Met	Asn	Lys		
625					630					635					640		
His	Trp	Thr	Ala	Ile	Ala	Lys	Leu	Gly	Gln	Thr	Thr	Tyr	Phe	Asp	Arg		
			645						650					655			
Asp	Glu	Ile	Gly	Ser	Gly	Asn	Asp	Leu	Ile	Arg	Gly	Asn	Lys	Lys	Thr		
		660						665					670				
Asp	Val	Gln	Met	Gln	Leu	Arg	Leu	Lys	Phe								
		675					680										

&lt;210&gt; 5722

&lt;211&gt; 158

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5722

Asn	Ser	Thr	Thr	Met	Lys	Lys	Leu	Thr	Arg	Lys	Ser	Leu	Asn	Glu	Leu		
1				5					10					15			
Ala	Lys	Thr	Met	Pro	Ile	Ile	Glu	Glu	Ser	Leu	Gln	Met	Ser	Tyr	Val		
			20					25					30				
Gly	Gly	Gly	Asn	Gly	Thr	Ser	Ala	Asn	Pro	Tyr	Thr	Gln	Glu	Glu	Tyr		
		35					40					45					
Glu	Ser	Met	Val	Ser	Ser	Gly	Ile	Trp	Asn	Gly	Gly	Tyr	Val	Glu	Asn		
	50					55					60						
Trp	Gly	Tyr	Thr	Phe	Pro	Glu	Met	Ala	Val	Ser	Ser	Tyr	Asp	Pro	Asn		
65					70					75					80		
Asn	Leu	Pro	Lys	Thr	Gly	Val	Asp	Ser	Tyr	Asp	Leu	Met	Tyr	Gln	Gly		
				85					90					95			
Gly	Phe	Ala	Ile	Gly	Tyr	Lys	Ala	Gly	Leu	Ser	Gly	Ser	Thr	Leu	Asp		
			100					105					110				
Asp	Ile	Gly	Ile	Gly	Ala	Trp	Ser	Ala	Leu	Ala	Val	Ile	Ser	Ala	Gly		
	115						120					125					
Ser	Glu	Ile	Gly	Gly	Val	Asn	Ser	Asp	Met	Ile	Trp	Tyr	Ser	Lys	Gly		
	130					135					140						
Leu	Arg	Asp	Gly	Leu	Thr	Lys	Gly	Arg	Gly	Ala	Arg	Gly	Asn				
145					150					155							

&lt;210&gt; 5723

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5723

Leu	Trp	Arg	Thr	Val	Glu	Asn	Lys	Ser	Thr	Met	Asp	Asp	Ile	Val	Lys		
1				5					10					15			
Val	Leu	Val	Ile	Met	Ala	Ala	Phe	Ala	Leu	Pro	Leu	Ile	Arg	Gln	Ile		
		20						25					30				
Lys	Lys	Ser	Lys	Thr	Glu	Arg	Ser	Ala	Gln	Lys	Pro	Phe	Val	Pro	Ile		
		35					40					45					
Pro	Asp	Thr	Glu	Glu	Pro	Glu	Val	Leu	Lys	Val	Thr	Arg	Lys	Tyr	Gln		
	50					55					60						
Pro	Leu	His	Ser	Gln	Ser	Thr	Ser	Gln	Lys	Val	Glu	Val	Lys	Lys	Asn		
65					70					75					80		

Lys Thr Val Ser Gln Lys Ile Glu Thr Thr Pro Ala Asn Asp Pro Glu  
                   85                  90                  95  
 Phe Thr Ile His Ser Ala Glu Glu Ala Arg Lys Ala Ile Ile Trp Ser  
                   100                  105                  110  
 Glu Ile Leu Asn Arg Lys Tyr  
                   115

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 <211> 219  
 <212> PRT  
 <213> B.fragilis

<400> 5724  
 Val Asn Ala Ala Arg Lys Thr Ile Asn Ile Asn Leu Ile Leu Tyr Phe  
 1                  5                  10                  15  
 Cys Lys Met Asn Met Arg Leu Thr Ile Gly Leu Leu Met Leu Ser Ile  
                   20                  25                  30  
 Ala Leu Leu Phe Ser Ser Glu Ser Leu Ala Gln Glu Lys Thr Asn Leu  
                   35                  40                  45  
 Gly Gly Tyr Leu Val Pro Met Cys Val Tyr Asn Gly Asp Thr Ile Pro  
                   50                  55                  60  
 Ala Phe Gln Ile Pro Thr Ile His Ile Phe Lys Pro Leu Lys Phe Arg  
 65                  70                  75                  80  
 Asn Arg Lys Glu Gln Met Glu Tyr Tyr Lys Leu Val Arg Asn Val Lys  
                   85                  90                  95  
 Lys Val Tyr Pro Ile Ala Arg Glu Ile Asn Arg Thr Ile Ile Glu Thr  
                   100                  105                  110  
 Tyr Glu Tyr Leu Gln Thr Leu Pro Asn Glu Lys Ala Arg Gln Arg His  
                   115                  120                  125  
 Ile Lys Arg Val Glu Lys Gly Leu Lys Glu Gln Tyr Thr Pro Arg Met  
                   130                  135                  140  
 Lys Lys Leu Ser Phe Ala Gln Gly Lys Leu Leu Ile Lys Leu Ile Asp  
 145                  150                  155                  160  
 Arg Gln Ser His Gln Ser Ser Tyr Glu Leu Val Lys Ala Phe Met Gly  
                   165                  170                  175  
 Pro Phe Lys Ala Gly Phe Tyr Gln Thr Phe Ala Ala Leu Phe Gly Ala  
                   180                  185                  190  
 Ser Leu Lys Lys Gln Tyr Asp Pro Glu Gly Glu Asp Lys Leu Thr Glu  
                   195                  200                  205  
 Arg Val Ile Leu Leu Val Glu Ser Gly Gln Leu  
                   210                  215

<210> 5725  
 <211> 308  
 <212> PRT  
 <213> B.fragilis

<400> 5725  
 His Cys Tyr Leu Ile Pro Thr His Lys Met Ile Ser Lys Pro Thr Lys  
 1                  5                  10                  15  
 Ser Asp Val Met Arg Glu Leu Arg Asp Tyr Ile Phe Ile Thr Leu Gly  
                   20                  25                  30  
 Leu Ile Ser Tyr Ala Leu Gly Trp Thr Ala Phe Leu Ile Pro Tyr Gln  
                   35                  40                  45  
 Ile Thr Thr Gly Gly Thr Thr Gly Ile Gly Ala Ile Ile Tyr Tyr Ala  
                   50                  55                  60  
 Thr Gly Phe Pro Ile Gln Trp Ser Tyr Phe Ile Ile Asn Ala Val Leu  
 65                  70                  75                  80  
 Met Thr Phe Ala Ile Lys Ile Leu Gly Pro Lys Phe Ser Ile Lys Thr

85 90 95  
 Thr Tyr Ala Ile Phe Met Leu Thr Phe Phe Leu Trp Phe Phe Gln Leu  
 100 105 110  
 Ile Ile Val Asp Asp Lys Gly Ala Pro Leu Gln Leu Val Gly Glu Gly  
 115 120 125  
 Gln Asp Phe Met Ala Cys Ile Ile Gly Ala Ile Met Cys Gly Leu Gly  
 130 135 140  
 Leu Gly Val Val Phe Asn Asn Asn Gly Ser Thr Gly Gly Thr Asp Ile  
 145 150 155 160  
 Ile Ala Ala Ile Val Asn Lys Tyr Lys Asp Val Thr Leu Gly Arg Met  
 165 170 175  
 Ile Met Phe Cys Asp Ile Ile Ile Ile Ser Ser Cys Tyr Phe Ile Phe  
 180 185 190  
 Asn Asp Trp Arg Arg Val Ile Phe Gly Phe Val Thr Leu Phe Ile Ile  
 195 200 205  
 Gly Phe Val Leu Asp Tyr Val Val Asn Ser Ala Arg Gln Ser Val Gln  
 210 215 220  
 Phe Phe Ile Phe Ser Lys Asp Tyr Ala Lys Ile Ala Asp Arg Ile Thr  
 225 230 235 240  
 Lys Glu Thr His Arg Gly Val Thr Val Leu Asp Gly Leu Gly Trp Tyr  
 245 250 255  
 Ser Gln Asn Asn Val Lys Val Leu Val Leu Ala Tyr Lys Arg Gln  
 260 265 270  
 Ser Leu Asp Ile Phe Arg Leu Val Lys Asp Ile Asp Pro Asn Ala Phe  
 275 280 285  
 Ile Ser Gln Ser Ser Val Ile Gly Val Tyr Gly Glu Gly Phe Asp Arg  
 290 295 300  
 Leu Lys Ile Lys  
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<210> 5726  
 <211> 75  
 <212> PRT  
 <213> B.fragilis

<400> 5726  
 Glu Leu Ile Ala Leu Ser Ile Phe Asp Cys Gln Glu Lys Leu Val Phe  
 1 5 10 15  
 Ala Thr Gln Ser Tyr Asp Arg Ala Asp Ser Arg Met Glu Gly Ala Thr  
 20 25 30  
 Glu Gln Asp Cys Ala Lys Lys Arg Thr Asp Ala Asn Asn Ile Lys Tyr  
 35 40 45  
 Phe Ile Thr Gly Val Phe Ile Asn Phe Leu Ser Ala Ser Val Ser Pro  
 50 55 60  
 Leu Phe Phe Pro Val Phe Val Leu Phe Ser Leu  
 65 70 75

<210> 5727  
 <211> 145  
 <212> PRT  
 <213> B.fragilis

<400> 5727  
 Phe Ile Asn Leu Leu Thr Phe Arg Gln Lys Ser Asp Lys Met Asn Arg  
 1 5 10 15  
 Ile Phe His Ala Arg Ile Val Trp Tyr Gln Tyr Phe Leu Leu Val Val  
 20 25 30  
 Leu Gly Val Asn Ala Phe Gly Phe Leu Trp Cys Lys Asn Ile Ile Leu  
 35 40 45

Ala Thr Leu Met Met Leu Phe Leu Ile Val Val Ile Glu Gln Ile Ile  
 50 55 60  
 His Thr Val Tyr Thr Val Thr Ala Asp Gly Leu Leu Leu Asn His  
 65 70 75 80  
 Gly Arg Phe Ile Arg Lys Lys Thr Ile Pro Ile Ala Glu Ile Thr Ser  
 85 90 95  
 Ile Arg Lys Val His Ser Met Lys Phe Gly Ser Phe Ser Val Thr Asn  
 100 105 110  
 Tyr Leu Leu Ile Glu Tyr Gly Lys Gly Lys Tyr Ala Ser Val Leu Pro  
 115 120 125  
 Val Lys Glu Lys Glu Phe Met Glu Leu Ile Glu Lys Thr Arg Asn Leu  
 130 135 140  
 Ile  
 145

<210> 5728  
 <211> 211  
 <212> PRT  
 <213> B.fragilis

<400> 5728  
 Phe Ser Lys Tyr Met Leu Ile Leu Leu Thr Gly Phe Lys Pro Leu Ser  
 1 5 10 15  
 Thr Pro Met Leu Thr Arg Lys Glu Leu Leu Leu Gln His Thr Asn Arg  
 20 25 30  
 Asn Asp Ile Ile Met Arg Lys Leu Lys Ile Thr Glu Leu Asn Arg Ile  
 35 40 45  
 Ser Ile Glu Glu Phe Lys Glu Ala Asp Lys Leu Pro Leu Val Val Val  
 50 55 60  
 Leu Asp Asp Ile Arg Ser Leu His Asn Ile Gly Ser Val Phe Arg Thr  
 65 70 75 80  
 Ala Asp Ala Phe Arg Ile Glu Cys Ile Tyr Leu Cys Gly Ile Thr Ala  
 85 90 95  
 Thr Pro Pro His Pro Glu Met His Lys Thr Ala Leu Gly Ala Glu Phe  
 100 105 110  
 Thr Val Asp Trp Lys Tyr Val Asn Asn Ala Val Glu Thr Val Asp Asn  
 115 120 125  
 Leu Arg Ser Glu Gly Tyr Val Val Tyr Ser Val Glu Gln Ala Glu Gly  
 130 135 140  
 Ser Ile Met Leu Asp Glu Leu Thr Leu Asp Arg Ser Lys Lys Tyr Ala  
 145 150 155 160  
 Val Val Met Gly Asn Glu Val Lys Gly Val Gln Gln Glu Val Ile Asp  
 165 170 175  
 His Ser Asp Gly Cys Ile Glu Ile Pro Gln Tyr Gly Thr Lys His Ser  
 180 185 190  
 Leu Asn Val Ser Val Thr Ala Gly Ile Val Ile Trp Asp Leu Phe Lys  
 195 200 205  
 Lys Leu Lys  
 210

<210> 5729  
 <211> 448  
 <212> PRT  
 <213> B.fragilis

<400> 5729  
 Thr Met Lys Tyr Gln Val Ile Ile Ile Gly Gly Gly Pro Ala Gly Tyr  
 1 5 10 15  
 Thr Ala Ala Glu Ala Ala Gly Lys Ala Gly Leu Ser Val Leu Leu Phe

20					25					30						
Glu	Lys	Gln	Asn	Leu	Gly	Gly	Val	Cys	Leu	Asn	Glu	Gly	Cys	Ile	Pro	
35					40					45						
Thr	Lys	Thr	Leu	Leu	Tyr	Ser	Ala	Lys	Thr	Tyr	Asp	Gly	Ala	Lys	His	
50					55					60						
Ala	Ser	Lys	Tyr	Ala	Val	Thr	Val	Pro	Glu	Val	Phe	Phe	Asp	Leu	Pro	
65					70					75					80	
Lys	Ile	Ile	Ala	Arg	Lys	Ser	Lys	Val	Val	Arg	Lys	Leu	Val	Leu	Gly	
85					90					95						
Val	Lys	Ser	Lys	Leu	Thr	Ser	Asn	Asn	Val	Thr	Ile	Ile	Ser	Gly	Glu	
100					105					110						
Ala	Thr	Ile	Leu	Asp	Lys	Asn	Thr	Val	Arg	Cys	Gly	Glu	Glu	Thr	Tyr	
115					120					125						
Glu	Cys	Asp	Asn	Leu	Ile	Leu	Cys	Thr	Gly	Ser	Glu	Thr	Phe	Ile	Pro	
130					135					140						
Pro	Ile	Ser	Gly	Ile	Asp	Ser	Val	Asn	Tyr	Trp	Thr	His	Arg	Glu	Ala	
145					150					155					160	
Leu	Asp	Asn	Lys	Glu	Leu	Pro	Ala	Ser	Leu	Ala	Ile	Val	Gly	Gly	Gly	
165					170					175						
Val	Ile	Gly	Met	Glu	Phe	Ala	Ser	Phe	Phe	Asn	Ser	Leu	Gly	Val	Lys	
180					185					190						
Val	Thr	Val	Ile	Glu	Met	Met	Asp	Glu	Ile	Leu	Gly	Gly	Met	Asp	Lys	
195					200					205						
Glu	Leu	Ser	Ala	Leu	Leu	Arg	Ala	Asp	Tyr	Ala	Lys	Arg	Gly	Ile	Gln	
210					215					220						
Phe	Leu	Leu	Ser	Thr	Lys	Val	Val	Ser	Leu	Ala	Gln	Thr	Glu	Glu	Gly	
225					230					235					240	
Ala	Val	Val	Ser	Tyr	Glu	Asn	Ala	Glu	Gly	Ala	Gly	Ser	Val	Ile	Ala	
245					250					255						
Glu	Lys	Leu	Leu	Met	Ser	Val	Gly	Arg	Arg	Pro	Val	Thr	Lys	Gly	Phe	
260					265					270						
Gly	Leu	Glu	Asn	Leu	Asn	Leu	Gln	Arg	Thr	Glu	Arg	Gly	Ser	Ile	Val	
275					280					285						
Val	Asn	Gly	Gln	Met	Glu	Ser	Ser	Leu	Pro	Gly	Val	Tyr	Val	Cys	Gly	
290					295					300						
Asp	Leu	Thr	Gly	Phe	Ser	Leu	Leu	Ala	His	Thr	Ala	Val	Arg	Glu	Ala	
305					310					315					320	
Glu	Val	Ala	Val	His	Ala	Ile	Leu	Gly	Lys	Glu	Asp	Arg	Met	Ser	Tyr	
325					330					335						
Ala	Ala	Ile	Pro	Gly	Val	Val	Tyr	Thr	Asn	Pro	Glu	Ile	Ala	Gly	Val	
340					345					350						
Gly	Gln	Thr	Glu	Glu	Ser	Leu	Thr	Ala	Lys	Gly	Ile	Ala	Tyr	Arg	Ala	
355					360					365						
Val	Lys	Leu	Pro	Met	Ala	Tyr	Ser	Gly	Arg	Phe	Val	Ala	Glu	Asn	Glu	
370					375					380						
Gly	Val	Asn	Gly	Val	Cys	Lys	Val	Leu	Leu	Gly	Glu	Asp	Asp	Thr	Ile	
385					390					395					400	
Leu	Gly	Ala	His	Val	Leu	Gly	Asn	Pro	Ala	Ser	Glu	Ile	Ile	Thr	Leu	
405					410					415						
Ala	Gly	Met	Ala	Val	Glu	Met	Lys	Leu	Lys	Ala	Ala	Glu	Trp	Lys	Lys	
420					425					430						
Ile	Val	Phe	Pro	His	Pro	Thr	Val	Ala	Glu	Ile	Phe	Arg	Glu	Ala	Leu	
435					440					445						

&lt;210&gt; 5730

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5730

Gly Gln Gly Tyr Phe Gln Gln Asp Glu Pro Ala Phe Ser Val Phe Asp  
 1 5 10 15  
 Pro Val Leu Asp Tyr Phe Asn Thr His Val Ile His Arg Ser Gly Ala  
 20 25 30  
 Met His Ala Leu Pro Asp Gly Glu Tyr Pro Phe Thr Gly Lys Gly Gln  
 35 40 45  
 Gly Leu Lys Ile Ala Ala Val Ser Gly His His Ile Arg Phe Pro Asp  
 50 55 60  
 Gly Ser Arg Arg Ala Val Ile Gln Gly Trp Glu Phe Asn Arg Ile Phe  
 65 70 75 80  
 Ser Ile Asn

&lt;210&gt; 5731

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5731

Tyr Tyr Ser Leu Phe Tyr Ile Ile Asn Gln Leu Cys Ile Ser Ile Lys  
 1 5 10 15  
 Trp Lys Ser Asn Pro Val Lys Leu Lys Lys Ser Asn Tyr Ser Asp Asn  
 20 25 30  
 Ile Pro Phe Trp Gly Ala Lys Ile Ile Asn Phe Arg Leu Met Gln Ser  
 35 40 45  
 Ser Ala Phe Ser Phe Cys Pro Lys Arg Gly Cys Leu Leu Leu Pro Gly  
 50 55 60  
 Ser Gln Thr Met Arg Glu Asn Leu Cys His Ser Ala Val Leu Lys Glu  
 65 70 75 80  
 Ile Ser

&lt;210&gt; 5732

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5732

Gln Ala Thr His Lys Ile Ser Ile Asn Met Glu Ser Thr Asn Arg Leu  
 1 5 10 15  
 Arg Tyr Leu Ile Ala Gly Thr Gly Gly Val Gly Gly Ser Ile Ala Gly  
 20 25 30  
 Phe Leu Ser Leu Ala Gly Lys Asp Ile Thr Cys Ile Ala Arg Gly Ala  
 35 40 45  
 His Leu Gln Ala Ile Gln Gln Asp Gly Leu Lys Leu Lys Ser Asp Leu  
 50 55 60  
 Lys Gly Glu His Ala Leu Arg Ile Asn Ala Cys Thr Ala Glu Glu Tyr  
 65 70 75 80  
 Asn Gly Lys Ala Asp Val Ile Phe Val Cys Val Lys Gly Tyr Ser Val  
 85 90 95  
 Asp Ser Ile Thr Glu Leu Ile Lys Arg Ala Ala His Asp Arg Thr Ile  
 100 105 110  
 Val Ile Pro Ile Leu Asn Val Tyr Gly Thr Gly Pro Arg Ile Gln Arg  
 115 120 125  
 Leu Val Pro Gly Val Thr Val Leu Asp Gly Cys Ile Tyr Ile Val Gly  
 130 135 140  
 Phe Val Ser Gly Pro Gly Glu Ile Thr Gln Met Gly Thr Ile Phe Arg  
 145 150 155 160



Leu Val Tyr Gly Ala His Arg Gly Ile Leu Val Pro Ala Gly Leu Met  
 165 170 175  
 Glu Ala Val Gln Arg Asp Leu Gln Glu Ser Gly Ile Lys Val Glu Ile  
 180 185 190  
 Ser Pro Asp Ile Asn Arg Asp Thr Phe Ile Lys Trp Ser Phe Ile Ser  
 195 200 205  
 Ala Met Ala Val Thr Gly Ala Tyr Phe Asp Val Pro Met Gly Glu Val  
 210 215 220  
 Gln Lys Pro Gly Lys Val Arg Asp Thr Phe Ile Gly Leu Ser Thr Glu  
 225 230 235 240  
 Ser Ala Ala Leu Gly Lys Lys Leu Gly Ile Glu Phe Lys Glu Asp Ile  
 245 250 255  
 Val Thr Tyr Asn Leu Lys Val Ile Asp Lys Leu Ala Pro Glu Ser Thr  
 260 265 270  
 Ala Ser Met Gln Lys Asp Ile Ala Arg Gly His Glu Ser Glu Val Gln  
 275 280 285  
 Gly Leu Leu Phe Asp Met Ile Thr Ala Ala Glu Glu Gln Gly Ile Asp  
 290 295 300  
 Val Pro Thr Tyr Arg Glu Val Ala Lys Lys Phe Ile Lys Gln  
 305 310 315

&lt;210&gt; 5733

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5733

Asn Lys Leu His Thr Met Lys Arg Lys Leu Val Phe Ala Thr Asn Asn  
 1 5 10 15  
 Ala His Lys Leu Glu Glu Val Ser Ala Ile Leu Gly Asp Lys Val Glu  
 20 25 30  
 Leu Leu Ser Leu Asn Asp Ile Asn Cys His Thr Asp Ile Pro Glu Thr  
 35 40 45  
 Ala Glu Thr Leu Glu Gly Asn Ala Tyr Leu Lys Ser Ser Phe Ile Tyr  
 50 55 60  
 Arg Asn Tyr Gly Leu Asn Cys Phe Ala Asp Asp Thr Gly Leu Glu Val  
 65 70 75 80  
 Glu Ser Leu Gly Gly Ala Pro Gly Ile Tyr Ser Ala Arg Tyr Ala Gly  
 85 90 95  
 Gly Glu Gly His Asn Ala Glu Ala Asn Met Leu Lys Leu Leu His Glu  
 100 105 110  
 Leu Glu Gly Lys Asp Asn Arg Arg Ala Gln Phe Arg Thr Ala Ile Ser  
 115 120 125  
 Leu Ile Leu Asp Glu Lys Glu Tyr Leu Phe Glu Gly Ile Ile Lys Gly  
 130 135 140  
 Glu Ile Ile Lys Glu Lys Arg Gly Asp Ser Gly Phe Gly Tyr Asp Pro  
 145 150 155 160  
 Val Phe Val Pro Glu Gly Tyr Asp Arg Thr Phe Ala Glu Leu Gly Asn  
 165 170 175  
 Glu Ile Lys Asn Gln Ile Ser His Arg Ala Leu Ala Val Asn Lys Leu  
 180 185 190  
 Cys Glu Phe Leu Arg Ser Ile  
 195

&lt;210&gt; 5734

&lt;211&gt; 493

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5734

Arg Tyr Ser Lys Thr Leu Lys Thr Leu Leu Tyr Ile Leu Val Phe Ser  
 1 5 10 15  
 Leu Cys Tyr Thr Asn Ala Tyr Cys Gln Ser Ile Pro Arg Glu Val Thr  
 20 25 30  
 Leu Asp Glu Val Ile Asn Arg Leu Ser Leu Glu Ser Ser Ala Lys  
 35 40 45  
 Ile Glu Leu Leu Asn Phe Gln Asn Asp Leu Leu Arg Tyr Glu Asn Tyr  
 50 55 60  
 Lys Lys Ser Phe Leu Pro Ala Phe Val Leu Asn Phe Asn Pro Ile Asn  
 65 70 75 80  
 Phe Asn Arg Ser Leu Arg Leu Leu Gln Gln Pro Ile Asp Gly Ser Tyr  
 85 90 95  
 Ser Tyr Val Glu Asp Asn Ser Asn Thr Asn Phe Gly Thr Thr Val  
 100 105 110  
 Arg Gln Lys Ile Ser Ile Thr Gly Gly Glu Leu Ser Ile Gly Ser Asn  
 115 120 125  
 Ile Asn Tyr Leu Asn Glu Phe Ser Arg Lys Gln Asn Ser Phe Ser Thr  
 130 135 140  
 Asn Pro Phe Phe Ile Ser Tyr Ser Gln Gln Leu Trp Gly Gly Gly Lys  
 145 150 155 160  
 Leu Gln Arg Leu Glu Asn Lys Ile Glu Arg Ala Lys Asn Glu Val Ala  
 165 170 175  
 Val Lys Gln Tyr Cys Ser Asn Ile Ala Gln Ile Gln Gln Gln Ala Leu  
 180 185 190  
 Thr Leu Tyr Leu Ser Ala Ile Leu Ser Lys Met Asp Ser Glu Leu Ala  
 195 200 205  
 Ile Asp Ile Lys Gln Ser Asn Asp Thr Leu Leu His Ile Ala Glu Ile  
 210 215 220  
 Lys Leu Arg Asn Gly Ser Ile Thr Glu Tyr Asp Tyr Lys Gln Met Glu  
 225 230 235 240  
 Leu Gln Ser Leu Asn Leu Gln Tyr Met Tyr Glu Asn Ala Val Lys His  
 245 250 255  
 Tyr Ala Glu Ser Ile Gln Lys Leu Phe Thr Phe Leu Gly Ile Glu Asn  
 260 265 270  
 Asn Ala Glu Ile Thr Ile Pro Asp Phe Asp Leu Pro Leu Thr Ile Asp  
 275 280 285  
 Ala Arg Leu Val Ile Tyr Tyr Val Lys Lys Asn Asn Pro Ile Ser Asn  
 290 295 300  
 Gln Gln Glu Ile Gln Gln Leu Glu Glu Glu Lys Asn Leu Phe Ser Ile  
 305 310 315 320  
 Lys Leu Lys Asn Arg Phe Asn Gly Asn Ile Ser Leu Asn Tyr Gly Ile  
 325 330 335  
 Asn Gln Tyr Ala Glu Thr Leu Ala Asp Ala Tyr Arg His Gly Asn Thr  
 340 345 350  
 Arg Gln Ser Val Ile Ile Glu Phe Gln Ile Pro Ile Phe Gln Trp Gly  
 355 360 365  
 Ile Asn Lys Asn Asn Ile Arg Ile Ala Lys Asn Asn Tyr Asp Ala Ser  
 370 375 380  
 Arg Leu Arg Ile Glu Lys Lys Met Phe Glu Phe Glu Asn Glu Val Lys  
 385 390 395 400  
 Glu Lys Ile Asn Ala Tyr Asp His Ser Val Lys Leu Trp Leu Thr Ala  
 405 410 415  
 Ser Arg Ala Tyr Ala Leu Ser Lys Glu Gln Tyr Lys Met Leu Thr Lys  
 420 425 430  
 Lys Phe Ser Leu Gly Lys Val Ser Val Tyr Glu Leu Ala Thr Ala Gln  
 435 440 445  
 Lys Glu Arg Asn Asp Ala Met Gln Arg Tyr Tyr Ser Ala Ile Lys Asp  
 450 455 460

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Ser Tyr Glu Ser Phe Phe Thr Leu Arg Asn Leu Ala Leu Tyr Asp Phe  
 465 470 475 480  
 Lys Lys Asn Val Glu Leu Glu Lys Ile Leu Phe Asn Asp  
 485 490

<210> 5735  
 <211> 192  
 <212> PRT  
 <213> B.fragilis

<400> 5735  
 Phe Ile Tyr Lys Pro Leu Ile Ile Thr Ala Met Lys Lys Leu Thr Lys  
 1 5 10 15  
 Lys Asn Leu Ser Glu Leu Ala Lys Thr Met Pro Val Ile Glu Glu Ser  
 20 25 30  
 Leu Gln Met Ser Tyr Val Gly Gly Gly Asn Gly Thr Ser Ala Asn Pro  
 35 40 45  
 Tyr Thr Lys Val Glu Phe Asp Ser Met Leu Ser Asn Asp Asn Trp Asn  
 50 55 60  
 Gly Gly Tyr Val Glu Gly Met Gly Tyr Val Ala Pro Asn Thr Tyr Ile  
 65 70 75 80  
 Tyr Gly Asn Ser Val Tyr Trp Gly Ser Val Ser Gln Asp Tyr Tyr Thr  
 85 90 95  
 Phe Pro Asp Tyr Val Thr Ser Leu Ser Ser Asp Gly Leu Asn Gln Met  
 100 105 110  
 Ala Glu Ser Leu Ala Gly Ala Ile Pro Gly Val Gly Ser Tyr Thr Ala  
 115 120 125  
 Tyr Leu Ser Gln Glu Leu Gly Asp Met Ser Arg Glu Ile Gln Ser Glu  
 130 135 140  
 Leu Leu Lys Lys Gly Tyr Asn Gly Ser Ser Ser Phe Thr Ile Val Arg  
 145 150 155 160  
 Thr Tyr Met Gly Ser Ser Val Lys Phe Ser Val Tyr Asn Ala Asn Asn  
 165 170 175  
 Gly Glu Leu Ile Thr Ser Lys Thr Ile Asn Met Phe Gly Phe Trp Gln  
 180 185 190

<210> 5736  
 <211> 506  
 <212> PRT  
 <213> B.fragilis

<400> 5736  
 His Glu Asn Asn Thr Ile Ile Met Ala Phe Lys Ser Ile Ser Ala Ala  
 1 5 10 15  
 Glu Ala Ala Ser Leu Val Lys His Gly Tyr Asn Ile Gly Leu Ser Gly  
 20 25 30  
 Phe Thr Pro Ala Gly Thr Ala Lys Ala Val Thr Ser Glu Ile Ala Lys  
 35 40 45  
 Ile Ala Glu Ala Glu His Ala Lys Gly Asn Pro Phe Gln Ile Gly Ile  
 50 55 60  
 Phe Thr Gly Ala Ser Thr Gly Asp Ser Cys Asp Gly Ile Leu Ser Arg  
 65 70 75 80  
 Val Lys Ala Ile Arg Tyr Arg Ala Pro Tyr Thr Thr Asn Pro Asp Phe  
 85 90 95  
 Arg Lys Ala Val Asn Asn Gly Glu Ile Ala Tyr Asn Asp Ile His Leu  
 100 105 110  
 Ser Gln Met Ala Gln Glu Val Arg Tyr Gly Phe Met Gly Lys Val Asn  
 115 120 125  
 Val Ala Ile Ile Glu Ala Cys Glu Val Thr Pro Asp Gly Lys Ile Tyr

130 135 140  
 Leu Thr Ala Ala Gly Gly Ile Ala Pro Thr Val Cys Arg Leu Ala Asp  
 145 150 155 160  
 Gln Ile Ile Val Glu Leu Asn Ser Ala His Ser Lys Asn Met Met Gly  
 165 170 175  
 Met His Asp Val Tyr Glu Pro Leu Asp Pro Pro Tyr Arg Arg Glu Ile  
 180 185 190  
 Pro Ile Tyr Lys Pro Ser Asp Arg Ile Gly Leu Pro Tyr Ile Gln Val  
 195 200 205  
 Asp Pro Lys Lys Ile Val Gly Ile Val Glu Thr Asn Trp Pro Asp Glu  
 210 215 220  
 Ala Arg Ser Phe Ala Ala Ala Asp Pro Ile Thr Asp Lys Ile Gly Gln  
 225 230 235 240  
 Asn Val Ala Asp Phe Leu Ala Ala Asp Met Lys Arg Gly Ile Ile Pro  
 245 250 255  
 Ser Thr Phe Leu Pro Leu Gln Ser Gly Val Gly Asn Ile Ala Asn Ala  
 260 265 270  
 Val Leu Gly Ala Leu Gly Arg Asp Gln Thr Ile Pro Ala Phe Glu Met  
 275 280 285  
 Tyr Thr Glu Val Ile Gln Asn Ser Val Ile Gly Leu Ile Arg Glu Gly  
 290 295 300  
 Arg Val Lys Phe Gly Ser Ala Cys Ser Leu Thr Val Thr Asn Asp Cys  
 305 310 315 320  
 Leu Gln Gly Ile Tyr Asp Asp Met Asp Phe Phe Arg Asp Lys Leu Ile  
 325 330 335  
 Leu Arg Pro Ser Glu Ile Ser Asn Ser Pro Glu Val Val Arg Arg Leu  
 340 345 350  
 Gly Ile Ile Ser Ile Asn Thr Ala Ile Glu Ala Asp Ile Tyr Gly Asn  
 355 360 365  
 Val Asn Ser Thr His Ile Gly Gly Thr Lys Met Met Asn Gly Ile Gly  
 370 375 380  
 Gly Ser Gly Asp Phe Thr Arg Asn Ala Tyr Ile Ser Ile Phe Thr Cys  
 385 390 395 400  
 Pro Ser Val Ala Lys Glu Gly Lys Ile Ser Ser Ile Val Pro Met Val  
 405 410 415  
 Ser His Leu Asp His Ser Glu His Ser Val Asn Ile Val Ile Thr Glu  
 420 425 430  
 Gln Gly Val Ala Asp Leu Arg Gly Lys Ser Pro Lys Glu Arg Ala Gln  
 435 440 445  
 Ala Ile Ile Glu Asn Cys Ala His Pro Asp Tyr Lys Gln Ile Leu Trp  
 450 455 460  
 Asp Tyr Leu Lys Leu Ala Gly Asn Lys Ser Gln Thr Pro His Ala Ile  
 465 470 475 480  
 Gln Ala Ala Leu Gly Met His Ala Glu Leu Ala Lys Ser Gly Asp Met  
 485 490 495  
 Lys Asn Val Asn Trp Ala Glu Tyr Glu Arg  
 500 505

&lt;210&gt; 5737

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5737

Ser Cys Tyr Asn Glu Val Leu Tyr Lys Ser Ile Arg Lys Thr Asn Ser  
 1 5 10 15  
 Lys Lys Asn Arg Ser Gln Tyr Met Asn Ile Ala Phe Leu Thr Thr Leu  
 20 25 30  
 Asn Pro Ala Asp Ile Asn Asn Trp Ser Gly Thr Thr Phe His Leu Phe

35 40 45  
 His Ala Leu Ser Arg Lys His His Val Lys Val Ile Gly Gln Asn Thr  
 50 55 60  
 Leu Pro Gln Ala Ala Tyr Phe Thr Lys Asp Asn Cys Ile Lys Lys Asn  
 65 70 75 80  
 Pro Leu Glu Asn Tyr Val Ser Val Phe Gly Lys Leu Cys Thr Glu Gln  
 85 90 95  
 Leu Thr Asn Tyr Asp Leu Val Phe Phe Gly Asp Leu Tyr Leu Ala Pro  
 100 105 110  
 Phe Leu Asp Val Asn Val Pro Val Val His Leu Ser Asp Val Thr Tyr  
 115 120 125  
 His Ser Phe Gln Ser Tyr Leu Asn Pro Leu Lys Asn Glu Glu Arg Tyr  
 130 135 140  
 Arg Lys Leu Glu  
 145

<210> 5738

<211> 457

<212> PRT

<213> B.fragilis

<400> 5738

Arg Thr Gly Lys Lys Met Asn Ser Arg Ile Gln Lys Gln Glu Gln Pro  
 1 5 10 15  
 Ile Cys Ser Pro Lys Ile Ile Leu Pro Asn Pro Asn Lys Lys Ser Asp  
 20 25 30  
 Val Ile Ala Arg Ser Glu Glu Val Gln Ala Ile Ile Asp Arg Met Pro  
 35 40 45  
 Thr Tyr Trp Thr Lys Trp Val Ile Leu Cys Val Gly Val Leu Met Gly  
 50 55 60  
 Met Ile Ile Leu Leu Gly Phe Leu Ile Gln Tyr Pro Asp Thr Val Asp  
 65 70 75 80  
 Gly Gln Ile Ser Val Thr Ala Asn Ala Ala Pro Val Arg Leu Val Ala  
 85 90 95  
 Asn Ser Asn Gly Arg Ile Thr Leu Phe Gln Pro Asn Lys Ala Leu Leu  
 100 105 110  
 His Lys Asn Asp Val Ile Ser Cys Ile Glu Ser Gly Ala Asp Tyr Lys  
 115 120 125  
 His Ile Leu Trp Ile Asp Ser Phe Leu Lys Thr Leu Asn Asp Lys Ser  
 130 135 140  
 Thr Ile Arg Val Ala Leu Pro Asp Thr Leu Leu Gly Glu Val Ser  
 145 150 155 160  
 Ser Ala Tyr Asn Ser Phe Leu Leu Ser Phe Leu Gln Tyr Glu Arg Leu  
 165 170 175  
 Leu Thr Ser Asp Ile Tyr Ser Thr Met Arg Gln Lys Leu Gln Gln Gln  
 180 185 190  
 Ile Ile Ser Asp Glu Ala Val Ile Ala Asn Phe Asn Asn Glu Leu Arg  
 195 200 205  
 Leu Lys Lys Gln Ile Leu Asp Asn Ser Gln Asn Gln Leu Ser Lys Asp  
 210 215 220  
 Ser Ile Leu Leu Ser Met Lys Gly Ile Ser Glu Gln Glu Tyr Gln Gln  
 225 230 235 240  
 Lys Phe Ser Thr His Leu Ser Leu Lys Glu Ser Gln Leu Asn Leu Gln  
 245 250 255  
 Ser Asn Arg Gln Met Lys Gln Ser Glu Ile Ser Arg Asn Gln Leu Glu  
 260 265 270  
 Ile Gln Arg Ile Cys Leu Glu Glu Thr Glu Ala Lys Glu Lys Ala Tyr  
 275 280 285  
 Ser Asp Tyr Ile Thr Arg Lys Asn Glu Leu Ser Asn Ala Ile Lys Leu

290	295	300
Trp Lys Glu His Tyr Leu Gln Tyr Ala Pro Val Glu Gly Glu Leu Glu		
305	310	315
Tyr Leu Gly Phe Trp Arg Asn Asn Arg Phe Val Gln Ser Gly Gln Glu		320
	325	330
Leu Phe Ser Ile Ile Pro Asp Lys Thr Asn Ile Leu Gly Glu Val Val		335
	340	345
Ile Pro Ser Phe Gly Ala Gly Lys Val Glu Val Gly Gln Thr Val Asn		350
	355	360
Val Lys Met Asp Asn Tyr Pro Tyr Asp Glu Tyr Gly Leu Leu Lys Gly		365
	370	375
Val Val Lys Ser Val Ser Arg Ile Thr Asn Lys Ile Lys Thr Gln Asn		380
385	390	395
Gly Asp Met Asp Thr Tyr Leu Val Ile Ile Ser Phe Pro Asp Gly Thr		400
	405	410
Leu Thr Asn Phe Gly Lys Ile Leu Pro Leu Asp Phe Glu Thr Lys Gly		415
	420	425
Thr Val Glu Ile Ile Thr Lys Arg Lys Arg Leu Ile Glu Arg Leu Phe		430
	435	440
Asp Asn Leu Lys Ser Lys Gly Glu Lys		445
450	455	

&lt;210&gt; 5739

&lt;211&gt; 607

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5739

Ile Ile Leu Asn Met Asn Ser Ile Thr Lys Leu His Val Leu Phe Phe		
1	5	10
Phe Val Phe Ile Phe Tyr Thr Val Ser Cys Thr Ala Lys Leu Glu Lys		15
	20	25
Gln Thr Tyr Thr Asn Val Tyr Asp Leu His Phe Ala Met Arg Ser Asp		30
	35	40
Ser Ala Val Val Tyr Pro Trp Arg Glu Asn Gly Ala Tyr Ser Asn Tyr		45
	50	55
Thr Ile Pro Ala Tyr Ile Gln Asp Ser Asn Arg Asn Leu Phe Ala Lys		60
65	70	75
Lys Tyr Phe Lys Gly Phe Pro Phe Ser Lys Arg Leu Arg Ser Glu Tyr		80
	85	90
Glu Gln Arg Ile Leu Leu Pro Asn Asn Asn Ile Lys Glu Ala Val Ile		95
	100	105
Gly Phe Glu Gly Lys Gly Asp Asn Ile Lys Leu Val Ser Ile Ile Leu		110
	115	120
Asp Ala Ile Gly Lys Gln Glu Asn Ile Leu Phe Ser Asp Thr Leu Arg		125
	130	135
Phe Arg Pro Asp Ser Ile Leu Ser Leu Val Thr Gln Asn Ile Asn Leu		140
145	150	155
Thr Asn Ala Glu Met Leu Asn Val Arg Ile Asn Val Glu Gly Glu Ile		160
	165	170
Asp Lys Asn Ala Tyr Ile Ala Phe Ser Arg Leu Asp Ile Leu Ile Asp		175
	180	185
Gly Lys Pro Ile Asp Glu Phe Pro Val Arg Thr Leu Ser Pro Leu Ile		190
	195	200
Val Asp Lys Lys Ile Asn Tyr Thr Gly Ile Asn Val Asp Arg Lys Ile		205
	210	215
Gly Leu Glu Gln Ile Asn Glu Ile Asn Asp Lys Lys Ile Ile Gly Leu		220
225	230	235
Gly Glu Ser Val His Gly Asn Asp Gly Ile Lys Asn Leu Ala Tyr Gln		240

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<210> 5740
<211> 84
<212> PRT
<213> B.fragilis
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Met	Lys	Ile	Lys	Lys	Tyr	Cys	Arg	Tyr	Ile	His	Leu	Trp	Leu	Ser	Leu
1				5					10					15	
Pro	Ala	Gly	Ile	Leu	Ile	Ser	Ile	Ile	Cys	Phe	Thr	Gly	Ala	Ile	Leu
			20					25					30		
Val	Phe	Lys	Glu	Glu	Leu	Leu	Thr	Ile	Met	Gly	Tyr	Asp	Ser	Ile	Arg
		35					40					45			
Glu	Ser	Pro	Leu	Met	Ile	Val	Met	Lys	Leu	His	Arg	Trp	Val	Lys	Asp

50                      55                      60  
 Asp Asn Arg Pro Pro Gly Lys Met Ile Val Ser Ile Phe Thr Phe Phe  
 65                      70                      75                      80  
 Ser Ser Leu Ser

<210> 5741  
 <211> 104  
 <212> PRT  
 <213> B.fragilis

<400> 5741  
 Asn Ile Lys Lys Gly Arg Arg Arg Leu Met Phe Asp Tyr His Ser Val  
 1                      5                      10                      15  
 Leu Gly Leu Tyr Ala Ala Leu Ile Leu Leu Val Cys Ala Leu Thr Gly  
                     20                      25                      30  
 Leu Met Trp Ser Phe Gln Trp Tyr Arg Asp Ile Val Ser Phe Ile Phe  
                     35                      40                      45  
 Asp Ala Glu Val Lys Arg Gly Ala Pro Ile Trp Lys Ile Val Arg Ala  
                     50                      55                      60  
 Leu His Phe Gly Thr Tyr Ala Gly Met Phe Ser Lys Ile Val Thr Phe  
 65                      70                      75                      80  
 Ile Ala Ala Leu Ile Gly Thr Ser Leu Pro Val Thr Gly Tyr Trp Met  
                     85                      90                      95  
 Tyr Leu Lys Arg Lys Lys Leu Leu  
                     100

<210> 5742  
 <211> 538  
 <212> PRT  
 <213> B.fragilis

<400> 5742  
 Phe Met Lys Asn Asn Cys Leu Ile Cys Ser Leu Leu Phe Ala Ser Gly  
 1                      5                      10                      15  
 Ile Gln Asn Ala Trp Gly Thr Gln Ile Thr Asp Arg Lys Ala Asn Pro  
                     20                      25                      30  
 Asp Gln Ala Lys Pro Asn Ile Ile Leu Ile Met Cys Asp Asp Met Gly  
                     35                      40                      45  
 Phe Ser Asp Leu Ser Cys Tyr Gly Gly Glu Val His Thr Pro His Ile  
                     50                      55                      60  
 Asp Phe Leu Ala Glu Asn Gly Ile Arg Phe Ser Gln Phe Lys Asn Thr  
 65                      70                      75                      80  
 Gly Arg Ser Cys Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Tyr Gln  
                     85                      90                      95  
 His Glu Val Gly Met Gly Trp Met Thr Ala Val Asp Glu His Arg Pro  
                     100                      105                      110  
 Gly Tyr Arg Gly Gln Ile Ser Asp Arg Tyr Pro Thr Ile Ala Glu Val  
                     115                      120                      125  
 Phe Arg Glu Asn Gly Tyr His Thr Tyr Met Ser Gly Lys Trp His Val  
                     130                      135                      140  
 Thr Val Glu Gly Ala Phe Thr Gln Pro Asn Gly Ser Tyr Pro Val Glu  
 145                      150                      155                      160  
 Arg Gly Phe Glu Lys Tyr Tyr Gly Cys Leu Ser Gly Gly Gly Asn Tyr  
                     165                      170                      175  
 Tyr Thr Pro Lys Pro Val Phe Ser Gly Leu Gln Arg Ile Thr Glu Phe  
                     180                      185                      190  
 Pro Lys Asp Tyr Tyr Tyr Thr Thr Ala Ile Thr Asp Ser Ala Val Ser  
                     195                      200                      205



Phe Ile Arg Gln His Pro Val Asp Glu Pro Met Phe Met Tyr Leu Ala  
 210 215 220  
 His Tyr Ala Pro His Leu Pro Leu Gln Ala Pro Lys Glu Arg Val Glu  
 225 230 235 240  
 Ala Cys Arg Glu Lys Tyr Lys Ala Gly Tyr Asp Val Leu Arg Lys Gln  
 245 250 255  
 Arg Phe Glu Arg Ile Arg Arg Asn Gly Leu Ile Asp Ile Glu Arg Glu  
 260 265 270  
 Leu Pro Val Phe Glu Lys Glu Phe Gly Gly Lys Arg Pro Ala Trp Asn  
 275 280 285  
 Ser Leu Thr Pro Gln Gln Gln Glu Arg Trp Ile Thr Glu Met Ala Thr  
 290 295 300  
 Tyr Ala Ala Met Ile Glu Ile Met Asp Asp Gly Ile Gly Glu Val Ile  
 305 310 315 320  
 Lys Ala Thr Lys Glu Lys Gly Ile Phe Asp Asn Thr Ile Phe Leu Phe  
 325 330 335  
 Leu Ser Asp Asn Gly Ala Thr Asn Glu Gly Asp Met Ile Thr Gln Leu  
 340 345 350  
 Arg Ala Asp Leu Ser Asn Thr Pro Phe Arg Ser Tyr Lys Gln Trp Cys  
 355 360 365  
 Phe Gln Gly Gly Thr Ser Ala Pro Leu Ile Ile Met Tyr Gly Gly Gly  
 370 375 380  
 Gln Pro Asp Gly Lys Lys Glu Ala Val Arg His Glu Phe Thr His Ile  
 385 390 395 400  
 Ile Asp Leu Phe Pro Thr Cys Leu Asp Met Ala Ser Ile Glu Tyr Pro  
 405 410 415  
 Arg Glu Phe Arg Asn His Ala Ile Asp Ala Pro Gly Gly Arg Thr Ile  
 420 425 430  
 Leu Pro Ala Leu Lys Gly Lys Lys Leu Ser Lys Arg Asp Leu Phe Phe  
 435 440 445  
 Glu His Gln Thr Ser Cys Gly Ile Ile Ser Gly Asp Trp Lys Leu Val  
 450 455 460  
 Arg Ala Asn Gly Lys Gln Pro Trp Glu Leu Phe Asn Leu Leu Gln Asp  
 465 470 475 480  
 Pro Phe Glu Gln Asn Asp Leu Ser Ala Arg Tyr Pro Asp Arg Val Lys  
 485 490 495  
 Thr Leu Glu Lys Lys Trp Asn Gln Trp Ala Glu Lys Gln Gln Val Phe  
 500 505 510  
 Pro Phe Glu Tyr Arg Pro Trp Thr Lys Arg Ile Asn Tyr Tyr Lys Ser  
 515 520 525  
 Leu Tyr Pro Asp Gln Ser Gly Lys Asp Leu  
 530 535

&lt;210&gt; 5743

&lt;211&gt; 338

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5743

Lys Lys Arg Lys Asn Lys Asn Ile Met Asn Arg Glu Glu Trp Val Asn  
 1 5 10 15  
 Lys Gly Phe Val Asp Glu Pro Val Asp Lys Ser Ile Asp Leu Lys Ala  
 20 25 30  
 Ala Ile Asn Glu Leu Lys Lys Glu Lys Asn Ala Val Ile Leu Gly His  
 35 40 45  
 Tyr Tyr Gln Lys Gly Glu Ile Gln Asp Ile Ala Asp Tyr Ile Gly Asp  
 50 55 60  
 Ser Leu Ala Leu Ala Gln Ile Ala Ala Lys Thr Asp Ala Asp Ile Leu  
 65 70 75 80

Val Met Cys Gly Val His Phe Met Gly Glu Thr Ala Lys Val Leu Cys  
 85 90 95  
 Pro Asp Lys Lys Val Leu Val Pro Asp Leu Asn Ala Gly Cys Ser Leu  
 100 105 110  
 Ala Asp Ser Cys Pro Ala Asp Lys Phe Ala Glu Phe Val Lys Ala His  
 115 120 125  
 Pro Gly Tyr Thr Val Ile Ser Tyr Val Asn Thr Thr Ala Ala Val Lys  
 130 135 140  
 Ala Val Thr Asp Val Val Val Thr Ser Thr Asn Ala Lys Gln Ile Val  
 145 150 155 160  
 Glu Ser Phe Pro Lys Asp Glu Lys Ile Ile Phe Gly Pro Asp Arg Asn  
 165 170 175  
 Leu Gly Asn Tyr Ile Asn Ser Ile Thr Gly Arg Glu Met Leu Leu Trp  
 180 185 190  
 Asp Gly Ala Cys His Val His Glu Gln Phe Ser Val Glu Lys Ile Val  
 195 200 205  
 Glu Leu Lys Ala Gln Tyr Pro Asp Ala Val Val Leu Ala His Pro Glu  
 210 215 220  
 Cys Lys Ser Val Val Leu Lys Leu Ala Asp Met Val Gly Ser Thr Ala  
 225 230 235 240  
 Ala Leu Leu Lys Tyr Ala Val Asn Ser Asp Lys Gln Arg Phe Ile Val  
 245 250 255  
 Ala Thr Glu Ala Gly Ile Leu His Glu Met Gln Lys Lys Cys Pro Gln  
 260 265 270  
 Lys Thr Phe Ile Pro Ala Pro Pro Asn Asp Ser Thr Cys Gly Cys Asn  
 275 280 285  
 Glu Cys Asn Phe Met Arg Leu Asn Thr Leu Glu Lys Leu Tyr Asn Cys  
 290 295 300  
 Leu Lys Tyr Glu Phe Pro Glu Val Thr Val Asp Pro Glu Val Ala Arg  
 305 310 315 320  
 Glu Ala Val Lys Pro Ile Lys Arg Met Leu Glu Ile Ser Ala Lys Leu  
 325 330 335  
 Gly Leu

&lt;210&gt; 5744

&lt;211&gt; 474

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5744

Asn Thr Met Lys Asn Lys Leu Phe Ile Leu Phe Ala Phe Cys Ile Ser  
 1 5 10 15  
 Val His Val Tyr Ala Gln Gln Pro Ser Arg Glu Ile Pro Leu Lys Tyr  
 20 25 30  
 Gly Ala Thr Asn Ile Gly Lys Arg Gln Asp Asp Ala Met Lys Arg Phe  
 35 40 45  
 Arg Asn Asn Arg Leu Gly Glu Phe Ile His Trp Gly Leu Tyr Ala Ile  
 50 55 60  
 Pro Gly Gly Glu Trp Lys Gly Lys Val Tyr Asn Gly Ala Ala Glu Trp  
 65 70 75 80  
 Leu Lys Ser Trp Ala Lys Val Pro Ala Ala Asp Trp Leu Glu Leu Met  
 85 90 95  
 Lys Gln Trp Asn Pro Val Lys Phe Asp Ala Arg Gln Trp Ala Arg Met  
 100 105 110  
 Ala Lys Glu Met Gly Val Lys Tyr Val Lys Ile Thr Thr Lys His His  
 115 120 125  
 Glu Gly Phe Cys Leu Trp Pro Ser Gln Tyr Ser Gln Tyr Thr Val Ala  
 130 135 140

Gln Thr Pro Tyr Arg Lys Asp Ile Leu Gly Glu Leu Val Lys Ala Tyr  
 145 150 155 160  
 Asn Asp Glu Gly Ile Asp Val His Phe Tyr Phe Ser Val Met Asp Trp  
 165 170 175  
 Ser His Pro Asp Tyr Arg Tyr Glu Ile Thr Ser Lys Glu Asp Ser Ile  
 180 185 190  
 Ala Phe Ser Arg Phe Leu Thr Phe Thr Asp His Gln Leu Lys Glu Leu  
 195 200 205  
 Ala Thr Arg Tyr Pro Thr Val Lys Asp Phe Trp Phe Asp Gly Thr Trp  
 210 215 220  
 Asp Ala Ser Ile Lys Lys Asn Gly Trp Trp Thr Ala His Ala Glu Gln  
 225 230 235 240  
 Met Leu Lys Glu Leu Val Pro Gly Val Thr Val Asn Ser Arg Leu Arg  
 245 250 255  
 Ala Asp Asp Tyr Gly Lys Arg His Phe Asp Ser Asn Gly Arg Leu Met  
 260 265 270  
 Gly Asp Tyr Glu Ser Gly Tyr Glu Arg Arg Leu Pro Asp Pro Val Lys  
 275 280 285  
 Asp Leu Gln Val Thr Lys Trp Asp Trp Glu Ala Cys Met Thr Val Pro  
 290 295 300  
 Glu Asn Gln Trp Gly Tyr His Lys Asp Trp Ser Leu Ser Tyr Val Lys  
 305 310 315 320  
 Thr Pro Ile Glu Val Ile Asp Arg Ile Val His Ala Val Ser Met Gly  
 325 330 335  
 Gly Asn Met Val Val Asn Phe Gly Pro Gln Pro Asp Gly Asp Phe Arg  
 340 345 350  
 Ser Glu Glu Lys Glu Leu Ala Met Ala Leu Gly Cys Trp Met Lys Arg  
 355 360 365  
 Tyr Gly Glu Cys Ile Tyr Gly Cys Asp Tyr Ala Gly Trp Asp Lys Gln  
 370 375 380  
 Asp Trp Gly Tyr Tyr Thr Arg Lys Gly Gln Glu Val Tyr Met Val Val  
 385 390 395 400  
 Phe Asn Arg Pro Tyr Ser Gly Leu Leu Lys Val Lys Ile Pro Lys Gly  
 405 410 415  
 Thr Glu Ile Glu Arg Ala Val Leu Pro Asp Gly Gln Val Val Lys Val  
 420 425 430  
 Thr Glu Thr Ala Arg Asn Glu Tyr Asn Val Ala Met Pro Ser Gln Asp  
 435 440 445  
 Pro Gly Glu Pro Phe Ile Ile Lys Leu Gln Val Lys Glu Ala Ser Gly  
 450 455 460  
 Ala Ala Asp Gly Tyr Arg Asp Ala Leu Thr  
 465 470

&lt;210&gt; 5745

&lt;211&gt; 304

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5745

Gln Gln Pro Lys Ser Lys Val Ser Met Cys Leu Leu Ile Gly Lys Leu  
 1 5 10 15  
 Leu Lys Asn Ser Ser Asn Asn Lys Glu Ile Asn Met Asn Asn Leu Leu  
 20 25 30  
 Leu Ser Ile Asn Trp Asn Pro Asn Pro Glu Leu Phe Asn Leu Phe Gly  
 35 40 45  
 Ile Ser Ile Arg Tyr Tyr Gly Leu Leu Trp Ala Ile Gly Ile Phe Phe  
 50 55 60  
 Ala Tyr Ile Val Val His Tyr Gln Tyr Arg Asp Lys Lys Ile Asp Glu  
 65 70 75 80

Lys Lys Phe Glu Pro Leu Phe Phe Tyr Cys Phe Phe Gly Ile Leu Ile  
                   85                  90                  95  
 Gly Ala Arg Leu Gly His Cys Leu Phe Tyr Asp Pro Gly Tyr Tyr Leu  
                   100                  105                  110  
 Asn His Phe Trp Glu Met Ile Leu Pro Val Lys Phe Leu Pro Gly Gly  
                   115                  120                  125  
 Gly Trp Lys Phe Thr Gly Tyr Glu Gly Leu Ala Ser His Gly Gly Thr  
                   130                  135                  140  
 Leu Gly Leu Ile Ile Ser Leu Trp Leu Tyr Cys Arg Lys Thr Lys Met  
                   145                  150                  155                  160  
 Asn Tyr Met Asp Val Val Asp Met Ile Ala Val Ala Thr Pro Ile Thr  
                   165                  170                  175  
 Ala Cys Phe Ile Arg Leu Ala Asn Leu Met Asn Ser Glu Ile Ile Gly  
                   180                  185                  190  
 Lys Val Thr Asp Val Ser Trp Ala Phe Val Phe Glu Arg Val Asp Met  
                   195                  200                  205  
 Gln Pro Arg His Pro Ala Gln Leu Tyr Glu Ala Ile Ala Tyr Phe Ile  
                   210                  215                  220  
 Leu Phe Leu Val Met Met Phe Leu Tyr Lys Asn Tyr Ser Lys Lys Leu  
                   225                  230                  235                  240  
 His Arg Gly Phe Phe Phe Gly Leu Cys Leu Thr Ala Ile Phe Thr Phe  
                   245                  250                  255  
 Arg Phe Phe Val Glu Phe Leu Lys Glu Asn Gln Val Asp Phe Glu Asn  
                   260                  265                  270  
 Ser Met Ala Leu Asn Met Gly Gln Trp Leu Ser Ile Pro Phe Val Ile  
                   275                  280                  285  
 Ile Gly Ile Tyr Phe Met Phe Phe Tyr Gly Lys Lys Lys Ser Val Lys  
                   290                  295                  300

&lt;210&gt; 5746

&lt;211&gt; 244

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5746

His Gly Thr Glu His Gly Ser Met Val Lys His Pro Val Arg Asn Tyr  
 1                  5                  10                  15  
 Arg His Leu Leu Tyr Val Phe Leu Arg Lys Glu Lys Glu Cys Lys Met  
                   20                  25                  30  
 Lys His Ile Ile Asp Ile Lys Thr Trp Glu Arg Lys Glu Asn Tyr Glu  
                   35                  40                  45  
 Phe Phe Leu Gly Phe Gln Asn Pro Thr Ile Ser Ile Thr Ser Glu Val  
                   50                  55                  60  
 Glu Cys Ser Gly Ala Arg Thr Arg Ala Lys Thr Ala Gly Glu Ser Phe  
                   65                  70                  75                  80  
 Phe Leu His Tyr Leu Tyr Ala Val Leu Arg Ala Val Asn Glu Ile Lys  
                   85                  90                  95  
 Glu Phe Arg Phe Arg Ile Asp Ser Glu Gly Arg Val Val Tyr Phe Asp  
                   100                  105                  110  
 Thr Val Asp Met Leu Thr Pro Ile Lys Val Ala Asp Asn Gly Arg Phe  
                   115                  120                  125  
 Phe Thr Val Arg Leu Pro Trp Tyr Pro Asp Phe Lys Thr Phe Tyr Thr  
                   130                  135                  140  
 Glu Ala Lys Ala Ile Ile Ser Gly Ile Asp Pro Asp Lys Asp Pro Tyr  
                   145                  150                  155                  160  
 Glu Ala Glu Lys Thr Gly Gly Ser Asp Leu Leu Asp Val Val Leu Leu  
                   165                  170                  175  
 Ser Ala Thr Pro Asp Leu Tyr Phe Thr Ser Leu Thr Cys Thr Gln Glu  
                   180                  185                  190

His Arg His Gly Gly Asn Tyr Pro Leu Met Asn Ala Gly Lys Ala Val  
 195 200 205  
 Ile Arg Gly Gly Val Leu Val Met Pro Ile Ala Met Thr Ile His His  
 210 215 220  
 Gly Phe Ile Asp Gly His His Leu Ser Leu Phe Tyr Lys Lys Val Glu  
 225 230 235 240  
 Glu Phe Leu Lys

<210> 5747  
 <211> 627  
 <212> PRT  
 <213> B.fragilis

<400> 5747

Ala Tyr Asn Glu Asn Lys Thr Lys Thr Gly Lys Asn Lys Gly Asp Thr  
 1 5 10 15  
 Glu Ala Asp Arg Lys Phe Ile Lys Thr Pro Val Met Lys Tyr Phe Ile  
 20 25 30  
 Leu Leu Ala Ser Val Leu Phe Leu Ala Gln Ser Cys Ser Val Ala Pro  
 35 40 45  
 Ser Met Arg Glu Ser Ala Arg Ser Tyr Asp Trp Val Ala Asn Thr Asn  
 50 55 60  
 Phe Ser Trp Gln Ser Lys Ile Asp Ser Ala Ile Ser Ser Tyr Pro Leu  
 65 70 75 80  
 Leu Leu His Pro Ser Tyr Glu Ala Lys Gly Ser Val Gly Phe Thr Val  
 85 90 95  
 Pro Val Phe Tyr Arg Met Asp Lys Lys Arg Val Gly Val Glu Val Arg  
 100 105 110  
 Ile Lys Tyr Lys Thr Glu Asn Cys Asn Asp Leu Cys Leu Lys Leu Ser  
 115 120 125  
 Gly Ile Gly Glu Cys Gly Lys Val Ile Ser Ala Asp Thr Phe Arg Leu  
 130 135 140  
 Ser Ala Ala Glu Ala Trp Thr Val Ala Arg Arg Ser Val Asp Met Ala  
 145 150 155 160  
 Ser Pro Leu Leu Leu Gly Val Ala Leu Glu Ala Arg Gly Glu Lys Pro  
 165 170 175  
 Gly Lys Lys Asp Phe Pro Ala Asp Pro Leu Gly Trp Glu Asn Asn Ser  
 180 185 190  
 Phe Lys Pro Gly Glu Tyr Ser Lys Ile Trp Ile Asp Ser Leu Asp Ile  
 195 200 205  
 Leu Ile Asp Gly Lys Tyr Ala Val Glu Leu Pro Ser Leu Asn Asn Gly  
 210 215 220  
 Thr Ala Ala Ser Val Arg Glu Ser Asp Val Met Pro Ala Asn Gly Gly  
 225 230 235 240  
 Asp Leu Lys Ser Leu Pro Phe Ser Gly Lys Arg Ile Leu Ala Ile Gly  
 245 250 255  
 Glu Ser Val His Gly Thr Gly Thr Met Asn Asp Met Gly Val Glu Ile  
 260 265 270  
 Ile Lys Asn Arg Ile Glu His Gly Lys Cys Arg Leu Val Leu Leu Glu  
 275 280 285  
 Ile Pro Leu Thr Leu Ser Phe His Ile Asn Arg Tyr Leu Glu Gly Asp  
 290 295 300  
 Glu Arg Phe Lys Pro Asp Ser Ile Ala Ser Tyr Phe Asp Lys Val Leu  
 305 310 315 320  
 Phe Ser Ser Ser Ser Phe Val Ser Leu Met Arg Trp Val Lys Glu Tyr  
 325 330 335  
 Asn Arg His Leu Glu Glu Lys Val Ser Phe Phe Gly Ile Asp Arg Asn  
 340 345 350

Ile Tyr Arg Leu Gln Ser Ser Ile Asp Leu Phe Tyr Phe Phe Tyr Thr  
 355 360 365  
 Leu Arg Arg Gly Lys Gly Asp Glu Gly Leu Lys Ala Ile Cys Glu Ser  
 370 375 380  
 Leu Leu Leu Ser Asp Glu Lys Phe Pro Phe Lys Gly Ala Asp Ser Val  
 385 390 395 400  
 Leu His Ala Asn His Gly Phe Lys Gly Ile Leu Thr Arg Arg Glu Ala  
 405 410 415  
 Glu Ile Met Ser Tyr Cys Leu Asn Ser Glu Glu Glu Ala Thr Ala Asp  
 420 425 430  
 Glu Leu Asn Arg Phe Arg Gly Arg Asp Ser Gly Met Tyr Glu Asn Ala  
 435 440 445  
 Lys Phe Leu Met Lys Thr Met Leu Lys Lys Asp Glu Thr Thr Thr Val  
 450 455 460  
 Tyr Cys His Leu Gly His Ala Asn Tyr Thr Ser Ile Ala Gly Trp Leu  
 465 470 475 480  
 Arg Pro Asp Met Arg Pro Phe Gly Glu Tyr Met Lys Gly Ser Tyr Gly  
 485 490 495  
 Asp Asp Tyr Ser Ala Val Gly Leu Leu Ala Gly Gly Gly Ser Tyr Leu  
 500 505 510  
 Thr Trp Val Phe Pro Gly Lys Met Gly Ile Arg Arg Leu Gln Ser Ser  
 515 520 525  
 Ser Ser Ala Gly Leu Glu Tyr Cys Ile Glu Arg Ser Gly Ile Ser Pro  
 530 535 540  
 Cys Tyr Leu Pro Met Asp Lys Leu Ser Asp Ala Asp Val Leu Lys Met  
 545 550 555 560  
 Arg Tyr Ile Gly Asn Thr Glu Ser Lys Ile Gly Gln Phe Gln Trp Val  
 565 570 575  
 Phe Pro Lys Cys Met Met Asp Gly Val Leu Phe Thr Lys Asn Ala Ser  
 580 585 590  
 Ala Thr Asn Lys Arg Glu Glu Phe Phe Lys Met Asn Leu Asp Tyr His  
 595 600 605  
 Val Gln Thr Leu Phe Ala Leu Met Tyr Leu Tyr Glu Lys Lys Arg Lys  
 610 615 620  
 Trp Ile Pro  
 625

&lt;210&gt; 5748

&lt;211&gt; 374

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5748

Tyr Lys Lys Asp Tyr Asn Ile Met Ala Leu Gln Cys Gly Ile Val Gly  
 1 5 10 15  
 Leu Pro Asn Val Gly Lys Ser Thr Leu Phe Asn Cys Leu Ser Asn Ala  
 20 25 30  
 Lys Ala Gln Ala Ala Asn Phe Pro Phe Cys Thr Ile Glu Pro Asn Val  
 35 40 45  
 Gly Val Ile Thr Val Pro Asp Glu Arg Leu Asn Lys Leu Ala Glu Leu  
 50 55 60  
 Val His Pro Asn Arg Ile Val Pro Thr Thr Val Glu Ile Val Asp Ile  
 65 70 75 80  
 Ala Gly Leu Val Lys Gly Ala Ser Lys Gly Glu Gly Leu Gly Asn Lys  
 85 90 95  
 Phe Leu Ala Asn Ile Arg Glu Thr Asp Ala Ile Ile His Val Leu Arg  
 100 105 110  
 Cys Phe Asp Asp Asp Asn Val Thr His Val Asp Gly Ser Val Asn Pro  
 115 120 125

Val Arg Asp Lys Glu Ile Ile Asp Tyr Glu Leu Gln Leu Lys Asp Leu  
 130 135 140  
 Glu Thr Ile Glu Ser Arg Ile Gln Lys Val Gln Lys Gln Ala Gln Thr  
 145 150 155 160  
 Gly Gly Asp Lys Ala Ala Lys Gln Ala Tyr Asp Val Leu Val Gln Phe  
 165 170 175  
 Lys Asp Ala Leu Glu Gln Gly Lys Ser Ala Arg Thr Val Thr Phe Glu  
 180 185 190  
 Thr Lys Asp Glu Gln Lys Ile Ala Lys Glu Leu Phe Leu Leu Thr Ser  
 195 200 205  
 Lys Pro Val Met Tyr Val Cys Asn Val Asp Glu Ala Ser Ala Val Asn  
 210 215 220  
 Gly Asn Lys Tyr Val Asp Met Val Arg Glu Ala Val Lys Asp Glu Asp  
 225 230 235 240  
 Ala Glu Ile Leu Val Val Ala Gly Lys Thr Glu Ala Asp Ile Ala Glu  
 245 250 255  
 Leu Glu Thr Tyr Glu Asp Arg Gln Met Phe Leu Ala Glu Ile Gly Leu  
 260 265 270  
 Glu Glu Ser Gly Val Ala Arg Leu Ile Lys Ser Ala Tyr Lys Leu Leu  
 275 280 285  
 Asn Leu Glu Thr Tyr Phe Thr Ala Gly Val Gln Glu Val Arg Ala Trp  
 290 295 300  
 Thr Tyr Glu Lys Gly Trp Lys Ala Pro Gln Cys Ala Gly Val Ile His  
 305 310 315 320  
 Thr Asp Phe Glu Lys Gly Phe Ile Arg Ala Glu Val Ile Lys Tyr Glu  
 325 330 335  
 Asp Phe Leu Gln Tyr Gly Ser Glu Ala Ala Val Lys Glu Ala Gly Lys  
 340 345 350  
 Leu Gly Val Glu Gly Lys Glu Tyr Val Val Gln Asp Gly Asp Ile Met  
 355 360 365  
 His Phe Arg Phe Asn Val  
 370

&lt;210&gt; 5749

&lt;211&gt; 735

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5749

Asn Gln Lys Glu Lys Asn Lys Asn Met Leu Leu His Arg Phe Pro Val  
 1 5 10 15  
 Glu Tyr Gln Met Asp Ser Gln Asp Cys Gly Pro Ala Ser Leu Lys Ile  
 20 25 30  
 Ile Ala Lys His Phe Gly Lys Phe Tyr Ser Leu Gln Phe Met Arg Asp  
 35 40 45  
 Arg Cys Gly Ile Thr Lys Glu Gly Val Ser Leu Leu Asp Leu Ser Thr  
 50 55 60  
 Gly Ala Glu Ser Ile Gly Leu Arg Thr Leu Ala Ile Lys Cys Thr Ile  
 65 70 75 80  
 Asp Asp Val Val Asn Ser Ile Pro Phe Pro Ala Ile Val Phe Trp Asn  
 85 90 95  
 Asp Ser His Phe Ile Val Val Tyr His Ser Asp Arg Lys Tyr Ile Trp  
 100 105 110  
 Val Ser Asp Pro Ala Lys Gly Arg Ile Lys Tyr Thr His Glu Glu Phe  
 115 120 125  
 Arg Lys Gly Trp Tyr Gln Arg Asp Glu Ser Gln Gly Val Leu Leu Ala  
 130 135 140  
 Val Glu Pro Thr Thr Asp Phe Lys Asn Ser Lys Ala Glu Gln Glu Gln  
 145 150 155 160

Lys Arg Asn Ser Phe Ser Ser Ile Leu Lys Tyr Phe Phe Pro Tyr Lys  
 165 170 175  
 Lys Ser Phe Gly Leu Ile Phe Ile Ile Met Leu Val Val Thr Val Leu  
 180 185 190  
 Gln Gly Met Leu Pro Phe Ile Ser Lys Ala Val Ile Asp Val Gly Ile  
 195 200 205  
 Lys Thr Ser Asp Arg Asn Phe Ile Asn Met Val Leu Ile Gly Asn Ile  
 210 215 220  
 Cys Ile Leu Leu Ser Val Met Ile Phe Asn Val Leu Arg Asp Trp Ile  
 225 230 235 240  
 Leu Leu His Ile Thr Ala Arg Val Asn Ile Ala Leu Ile Ser Asp Tyr  
 245 250 255  
 Leu Ile Lys Leu Met Lys Leu Pro Val Thr Phe Phe Glu Asn Lys Leu  
 260 265 270  
 Leu Gly Asp Ile Leu Gln Arg Ala Gln Asp His Glu Arg Ile Arg Ser  
 275 280 285  
 Phe Ile Met Asn Asn Ser Leu Ala Leu Ile Phe Ser Thr Leu Thr Phe  
 290 295 300  
 Ala Val Phe Ser Ile Ile Leu Leu Ile Tyr Asn Thr Ile Ile Phe Tyr  
 305 310 315 320  
 Ile Phe Leu Ser Gly Ser Val Leu Tyr Ala Cys Trp Val Leu Leu Phe  
 325 330 335  
 Leu Ser Ile Arg Lys Lys Leu Asp Trp Glu Tyr Phe Glu Leu Leu Ser  
 340 345 350  
 Lys Asn Gln Ser Tyr Trp Val Glu Thr Val Ser Thr Ile Gln Asp Ile  
 355 360 365  
 Lys Ile Tyr Asn Tyr Asp Lys Tyr Arg Arg Trp Lys Trp Glu Glu Ile  
 370 375 380  
 Gln Ala Arg Leu Tyr His Val Asn Lys Arg Val Leu Ala Ile Thr Asn  
 385 390 395 400  
 Ala Gln Asn Leu Gly Ala Gln Phe Ile Glu Asn Ile Lys Asn Met Ala  
 405 410 415  
 Ile Val Phe Phe Cys Ala Met Ala Val Ile Lys Gly Glu Ile Thr Phe  
 420 425 430  
 Gly Ile Met Ile Ser Thr Gln Phe Ile Ile Gly Met Leu Asn Gly Pro  
 435 440 445  
 Leu Val Gln Phe Ile Asn Phe Val Val Ser Ala Gln Tyr Ala Lys Ile  
 450 455 460  
 Ser Phe Leu Arg Ile Asn Glu Ile Arg Gln Leu Glu Asn Glu Asp Glu  
 465 470 475 480  
 Leu Leu Ser Ile Gly Ser Thr Thr Ile Leu Pro Glu Arg Lys Thr Ile  
 485 490 495  
 Leu Leu Glu Asn Ile His Phe Gln Tyr Thr Pro Asn Ser Pro Leu Val  
 500 505 510  
 Leu Arg Asn Ile Tyr Leu Gln Ile Pro Glu Asn Lys Ile Thr Ala Ile  
 515 520 525  
 Val Gly Gly Ser Gly Ser Gly Lys Ser Thr Leu Leu Lys Leu Leu Val  
 530 535 540  
 Arg Leu Tyr Lys Pro Ser His Gly Glu Ile Lys Met Asp Lys Met Asn  
 545 550 555 560  
 Val Ser Ala Ile Asn Leu Arg Gln Trp Arg Asn Met Cys Gly Val Val  
 565 570 575  
 Met Gln Asp Gly Lys Ile Phe Ser Asp Thr Ile Leu Asn Asn Ile Val  
 580 585 590  
 Leu Asp Asp Glu Gln Ile Asn Tyr Thr Arg Leu Arg Glu Val Cys Arg  
 595 600 605  
 Ile Ala Gln Ile Glu Asp Glu Ile Asn Ala Met Pro Lys Gly Phe Glu  
 610 615 620  
 Thr Thr Ile Gly Glu Thr Gly Arg Gly Leu Ser Gly Gly Gln Lys Gln



625		630		635		640
Arg Leu Leu Ile	Ala Arg Ala Leu Tyr	Arg Asp Pro Lys Phe Leu Phe				
	645	650		655		
Met Asp Glu Ala Thr	Asn Ser Leu Asp Ser Ile Asn Glu Arg Lys Ile					
	660	665		670		
Val Asn Ala Leu Asn Asn Ala Phe	Glu Gln Arg Thr Val Val Val Ile					
	675	680		685		
Ala His Arg Leu Ser Thr Ile Arg Asn Ala Asp	Gln Ile Val Val Leu					
	690	695		700		
Asp Lys Gly Phe Ile Val Glu Thr Gly Thr His Glu Ile Leu Met Glu						
705	710	715		720		
Lys Lys Gly His Tyr Phe Glu Leu Val Ser Ser Gln Ile Gln Asp						
	725	730		735		

&lt;210&gt; 5750

&lt;211&gt; 397

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (44)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 5750

Leu Pro Leu Leu Arg Leu Ala Arg Pro Asp Ala Asp Glu Pro Phe Arg			
1	5	10	15
Thr Glu Val Trp Tyr Lys Gly Thr Ile Glu His Asp Thr Leu Arg Gly			
	20	25	30
Asp Ile Tyr Val Val Gly Gly Phe Asp Pro Glu Xaa Asp Asp Glu Arg			
	35	40	45
Met Asn Ala Leu Val Glu Glu Val Ile Thr Phe Pro Phe Ser Val Leu			
	50	55	60
Lys Gly Asn Ile Tyr Gly Asp Ile Ser Met Lys Asp Ser Leu Tyr Trp			
65	70	75	80
Gly Ser Gly Trp Ala Trp Asp Asp Thr Pro Ser Ser Phe Gln Pro Tyr			
	85	90	95
Leu Ser Pro Leu Met Tyr His Lys Gly Met Val Lys Val Thr Ala Val			
	100	105	110
Pro Gly Ala Thr Arg Gly Asp Ser Ala Arg Leu Ser Phe Glu Pro Ser			
	115	120	125
Ser Ser Tyr Tyr Thr Met Thr Asn Glu Thr Lys Thr Arg Thr Ser Ser			
	130	135	140
Ala Gly Lys Phe Ser Val Ser Arg Gly Trp Leu Glu Asn Lys Asn Asn			
145	150	155	160
Leu Ile Val Ser Gly Asn Val Glu Asn Arg Arg Ile Gly Asp Val Asn			
	165	170	175
Val Tyr Ser Ser Gln Asp Phe Phe Met His Thr Phe Val Glu Arg Leu			
	180	185	190
Arg Asn Lys Gly Ile Glu Ile Ser Asn His Tyr Ala Phe Asp Ser Phe			
	195	200	205
Arg Ser Asp Ser Leu Ser Ile Cys Met Ala Arg Trp Glu Cys Pro Val			
	210	215	220
Gln Asp Val Ile Asp Gln Ile Met Lys Glu Ser Asp Asn Leu Ser Ala			
225	230	235	240
Glu Ala Leu Leu Cys Arg Leu Gly Ala Arg Ala Thr Gly Lys Lys Gln			
	245	250	255
Val Ser Ala Lys Asp Gly Ile Glu Glu Ile Tyr Arg Leu Ile Gln Asp			
	260	265	270

Leu Gly His Asp Pro Asp Asn Tyr Lys Ile Ala Asp Gly Cys Gly Leu  
 275 280 285  
 Ser Asn Tyr Asp Tyr Leu Ser Pro Ala Leu Leu Val Asp Phe Leu Lys  
 290 295 300  
 Phe Ala Tyr Ser Arg Thr Asp Ile Phe Arg Lys Leu Tyr Lys Ala Leu  
 305 310 315 320  
 Pro Val Ala Gly Ile Asp Gly Thr Leu Lys Asn Arg Met Lys Gln Gly  
 325 330 335  
 Ala Ala Phe Lys Asn Val His Ala Lys Thr Gly Ser Tyr Thr Ala Ile  
 340 345 350  
 Asn Thr Leu Ala Gly Tyr Leu Lys Met Ala Asn Gly His Gln Val Ala  
 355 360 365  
 Phe Ala Ile Met Asn Gln Asn Ile Leu Ser Ala Ala Lys Ala Arg Asn  
 370 375 380  
 Phe Gln Asn Lys Val Cys Glu Ile Leu Ala Asn His Gln  
 385 390 395

&lt;210&gt; 5751

&lt;211&gt; 527

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5751

Thr Leu Lys Leu Met Val Lys Lys Phe Asp Phe Leu Val Ile Gly Ser  
 1 5 10 15  
 Gly Ile Ala Gly Met Ser Phe Ala Leu Lys Val Ala His Lys Gly Lys  
 20 25 30  
 Val Ala Leu Val Cys Lys Ser Gly Leu Glu Glu Ala Asn Thr Tyr Phe  
 35 40 45  
 Ala Gln Gly Gly Val Ala Ser Val Thr Asn Leu Leu Val Asp Asn Phe  
 50 55 60  
 Glu Lys His Ile Glu Asp Thr Met Ile Ala Gly Asp Trp Ile Ser Asp  
 65 70 75 80  
 Arg Thr Ala Val Glu Lys Val Val Arg Glu Ala Pro Ala Gln Ile Gln  
 85 90 95  
 Glu Leu Ile Ser Trp Gly Val Asn Phe Asp Lys Asn Glu Lys Gly Glu  
 100 105 110  
 Phe Asp Leu His Arg Glu Gly Gly His Ser Glu Phe Arg Ile Leu His  
 115 120 125  
 His Lys Asp Asn Thr Gly Ala Glu Ile Gln Asp Ser Leu Ile Arg Ala  
 130 135 140  
 Val Gln Gln His Pro Asn Ile Thr Val Ile Glu Asn His Phe Ala Ile  
 145 150 155 160  
 Glu Ile Leu Thr Gln His His Leu Gly Val Thr Val Thr Arg Gln Thr  
 165 170 175  
 Pro Asp Ile Lys Cys Tyr Gly Ala Tyr Ile Leu Asp Pro Lys Thr Gly  
 180 185 190  
 Lys Val Asp Thr Tyr Leu Ala Lys Val Thr Leu Met Ala Thr Gly Gly  
 195 200 205  
 Val Gly Ala Val Tyr Gln Thr Thr Thr Asn Pro Leu Val Ala Thr Gly  
 210 215 220  
 Asp Gly Ile Ala Met Val Tyr Arg Ala Lys Gly Thr Val Lys Asp Met  
 225 230 235 240  
 Glu Phe Val Gln Phe His Pro Thr Ala Leu Tyr His Pro Gly Asp Arg  
 245 250 255  
 Pro Ser Phe Leu Ile Thr Glu Ala Met Arg Gly Tyr Gly Gly Val Leu  
 260 265 270  
 Arg Thr Met Asp Gly Lys Glu Phe Met Gln Lys Tyr Asp Pro Arg Leu  
 275 280 285

Ser Leu Ala Pro Arg Asp Ile Val Ala Arg Ala Ile Asp Asn Glu Met  
 290 295 300  
 Lys Asn Arg Gly Asp Asp His Val Tyr Leu Asp Val Thr His Lys Asp  
 305 310 315 320  
 Pro Glu Glu Thr Lys Lys His Phe Pro Asn Ile Tyr Glu Lys Cys Leu  
 325 330 335  
 Ser Leu Gly Ile Asp Ile Thr Arg Glu Tyr Ile Pro Val Ala Pro Ser  
 340 345 350  
 Ala His Tyr Leu Cys Gly Gly Ile Lys Val Asp Leu Asn Gly Gln Ser  
 355 360 365  
 Ser Ile Glu Arg Leu Tyr Ala Ala Gly Glu Cys Ser Cys Thr Gly Leu  
 370 375 380  
 His Gly Gly Asn Arg Leu Ala Ser Asn Ser Leu Ile Glu Ala Val Val  
 385 390 395 400  
 Tyr Ala Asp Ala Ala Ala Arg His Cys Leu Ser Val Ile Asp Gln Tyr  
 405 410 415  
 Thr Tyr Asn Glu Glu Ile Pro Glu Trp Asn Asp Glu Gly Thr Arg Ser  
 420 425 430  
 Pro Glu Glu Met Val Leu Ile Thr Gln Ser Met Lys Glu Val Asn Gln  
 435 440 445  
 Ile Met Ser Thr Tyr Val Gly Ile Val Arg Ser Asp Leu Arg Leu Lys  
 450 455 460  
 Arg Ala Trp Asp Arg Leu Asp Ile Leu Tyr Glu Glu Thr Glu Ser Leu  
 465 470 475 480  
 Phe Lys Arg Ser Val Ala Ser Lys Glu Ile Cys Glu Leu Arg Asn Met  
 485 490 495  
 Ile Asn Val Gly Tyr Leu Ile Met Arg Met Ala Met Glu Arg Lys Glu  
 500 505 510  
 Ser Arg Gly Leu His Tyr Thr Val Asp Tyr Pro His Ala Gly Lys  
 515 520 525

<210> 5752

<211> 261

<212> PRT

<213> B.fragilis

<400> 5752

Thr Glu Leu Ser Met Thr Ile Ile Phe Pro Ser Pro Ile Phe Gly Pro  
 1 5 10 15  
 Val His Ser Arg Arg Leu Gly Val Ser Leu Gly Ile Asn Leu Leu Pro  
 20 25 30  
 Ser Asp Gly Lys Val Cys Ser Phe Asp Cys Ile Tyr Cys Glu Cys Gly  
 35 40 45  
 Tyr Asn Gly Glu His Arg Pro Lys Ser Ser Leu Pro Thr Arg Glu Glu  
 50 55 60  
 Val Arg Met Ala Leu Glu Glu Lys Leu Lys Glu Met Lys Ser Asn Gly  
 65 70 75 80  
 Pro Ala Pro Asp Val Leu Thr Phe Ala Gly Asn Gly Glu Pro Thr Ala  
 85 90 95  
 His Pro His Phe Pro Glu Ile Ile Glu Asp Thr Leu Ala Leu Arg Asp  
 100 105 110  
 Ala Tyr Phe Pro Asp Ala Lys Val Ser Val Leu Ser Asn Ala Thr Phe  
 115 120 125  
 Ile Asn Arg Pro Ala Val Phe Asp Ala Leu Asn Arg Val Asp Asn Asn  
 130 135 140  
 Ile Leu Lys Leu Asp Thr Val Asp Glu Glu Tyr Ile Arg Thr Val Asp  
 145 150 155 160  
 Arg Pro Asn Gly Arg Tyr Asp Leu Asn Gly Thr Val Gly Leu Leu Lys  
 165 170 175

Ala Phe Lys Gly Asn Cys Ile Val Gln Thr Met Phe Met Lys Gly Lys  
 180 185 190  
 Tyr Lys Gly Lys Asp Val Asp Asn Thr Ser Asp Lys Tyr Val Leu Pro  
 195 200 205  
 Trp Leu Lys Val Val Lys Asp Ile Ala Pro Arg Gln Val Met Ile Tyr  
 210 215 220  
 Thr Ile Asp Arg Glu Thr Pro Asp Gln Asp Leu Gln Lys Ala Thr His  
 225 230 235 240  
 Glu Glu Leu Asp Arg Ile Val Ala Leu Leu Thr Lys Glu Gly Leu Ser  
 245 250 255  
 Ala Thr Ala Ser Tyr  
 260

<210> 5753

<211> 892

<212> PRT

<213> B.fragilis

<400> 5753

Val Asp Leu Arg Glu Thr Ala Ile Phe Ala Leu Leu Phe Met Asn Leu  
 1 5 10 15  
 Lys Arg Arg Leu Ser Val Ser Asn Asp Ile Glu Leu Thr Pro Met Met  
 20 25 30  
 Lys Gln Phe Leu Asp Leu Lys Ala Lys His Pro Asp Ala Val Met Leu  
 35 40 45  
 Phe Arg Cys Gly Asp Phe Tyr Glu Thr Tyr Ser Thr Asp Ala Ile Ile  
 50 55 60  
 Ala Ala Glu Ile Leu Gly Ile Thr Leu Thr Lys Arg Ala Asn Gly Lys  
 65 70 75 80  
 Gly Lys Thr Val Glu Met Ala Gly Phe Pro His His Ala Leu Asp Thr  
 85 90 95  
 Tyr Leu Pro Lys Leu Ile Arg Ala Gly Lys Arg Val Ala Ile Cys Asp  
 100 105 110  
 Gln Leu Glu Asp Pro Lys Thr Thr Lys Lys Leu Val Lys Arg Gly Ile  
 115 120 125  
 Thr Glu Leu Val Thr Pro Gly Val Ser Ile Asn Asp Asn Val Leu Asn  
 130 135 140  
 Tyr Lys Glu Asn Asn Phe Leu Ala Ala Val His Phe Gly Lys Ser Ala  
 145 150 155 160  
 Cys Gly Ile Ala Phe Leu Asp Ile Ser Thr Gly Glu Phe Leu Thr Ala  
 165 170 175  
 Glu Gly Pro Phe Asp Tyr Val Asp Lys Leu Leu Asn Asn Phe Ala Pro  
 180 185 190  
 Lys Glu Ile Leu Phe Glu Arg Gly Lys Arg Gly Met Phe Glu Gly Asn  
 195 200 205  
 Phe Gly Ser Lys Phe Phe Thr Phe Glu Leu Asp Asp Trp Val Phe Thr  
 210 215 220  
 Glu Ser Ser Ser Arg Glu Lys Leu Leu Lys His Phe Glu Thr Lys Asn  
 225 230 235 240  
 Leu Lys Gly Phe Gly Val Glu His Leu Lys Asn Gly Ile Ile Ala Ser  
 245 250 255  
 Gly Ala Ile Leu Gln Tyr Leu Asp Met Thr Glu His Thr Gln Val Gly  
 260 265 270  
 His Ile Thr Ser Leu Ala Arg Ile Glu Glu Asp Lys Tyr Val Arg Leu  
 275 280 285  
 Asp Lys Phe Thr Val Arg Ser Leu Glu Leu Ile Gly Ser Met Asn Asp  
 290 295 300  
 Gly Gly Ser Ser Leu Leu His Val Ile Asp Lys Thr Ile Ser Pro Met  
 305 310 315 320



785                      790                      795                      800  
 Val Ala Lys Met Ala Gly Met Pro Lys Ser Ile Val Lys Arg Ala Asn  
                                  805                      810                      815  
 Glu Ile Leu Lys Gln Leu Glu Ser Asp Asn Arg Gln Gln Gly Ile Ser  
                                  820                      825                      830  
 Gly Lys Pro Leu Ala Glu Val Ser Glu Asn Arg Gly Gly Met Gln Leu  
                                  835                      840                      845  
 Ser Phe Phe Gln Leu Asp Asp Pro Ile Leu Cys Gln Ile Arg Asp Glu  
                                  850                      855                      860  
 Ile Leu His Leu Asp Val Asn Asn Leu Thr Pro Ile Glu Ala Leu Asn  
 865                      870                      875                      880  
 Lys Leu Asn Asp Ile Lys Lys Ile Val Arg Gly Lys  
                                  885                      890

<210> 5754

<211> 599

<212> PRT

<213> B.fragilis

<400> 5754

Val Val Asn Ile Asp Asn Asn Leu Val Tyr Phe Met Lys Thr Lys Leu  
 1                      5                      10                      15  
 Pro Leu Leu Leu Leu Phe Phe Val Leu Phe Leu Phe Lys Cys Asp Leu  
                                  20                      25                      30  
 Lys Ala Asp Pro Gly His Lys Ser Pro Leu Glu Tyr Arg Trp Val Asn  
                                  35                      40                      45  
 His Pro Leu Asp Phe Tyr Leu Asn Val Thr Val Asp Ser Thr Thr Thr  
                                  50                      55                      60  
 Pro His Ser Leu Leu Phe Glu Thr Met Tyr Glu Lys Lys Gly Ile Ala  
 65                      70                      75                      80  
 Ser Phe Leu Leu Pro Ile Tyr Gln Leu Glu Lys Asn Ser Leu Thr Phe  
                                  85                      90                      95  
 Glu Ile Lys Ile Arg Tyr Lys Thr Glu Asn Cys Glu Asn Leu Phe Leu  
                                  100                      105                      110  
 Ala Ile Thr Ser Val Gly Asp Cys Glu Asn Ile Asn Ser Ile Asp Thr  
                                  115                      120                      125  
 Ile Gln Leu Asn Ala Thr Gln Asp Trp Lys Glu Cys Thr Arg Ile Leu  
                                  130                      135                      140  
 Lys Thr Lys Lys Ala Tyr Phe Leu Asn Ile Ser Val Gly Ala Val Gly  
 145                      150                      155                      160  
 Tyr Gly Gln Arg Lys Gly Lys Ile Trp Ile Ser Asp Leu Glu Val Leu  
                                  165                      170                      175  
 Gly Asp Gly Lys Ala Ile Gly Asp Asn Pro Gln Gln Glu Tyr Lys Lys  
                                  180                      185                      190  
 Glu Asp Ile His Leu Lys Ala Thr Asp Leu Ile His Trp Asn Asn Lys  
                                  195                      200                      205  
 Glu Tyr Asp Asn Leu Pro Phe Leu Asn Lys Lys Ile Leu Gly Leu Gly  
                                  210                      215                      220  
 Glu Thr Ala His Gly Thr Glu Thr Met Asn Asp Ile Gly Ile Glu Ile  
 225                      230                      235                      240  
 Ser Lys Glu Arg Ile Leu Lys His Gln Cys Arg Phe Ile Leu Leu Glu  
                                  245                      250                      255  
 Ile Pro Leu Glu Phe Ser Leu Tyr Ile Asn Arg Tyr Val Gln Asn Asp  
                                  260                      265                      270  
 Lys Asn Phe Lys Phe Glu Tyr Ile Ser Glu Arg Phe Glu Pro Tyr Leu  
                                  275                      280                      285  
 Phe Ser Asp Ser Ile Leu Ser Phe Ile Arg Trp Ile Lys Glu Tyr Asn  
                                  290                      295                      300  
 Ser Ala His Asn Gln Lys Ile Ser Ile Leu Gly Phe Asp Leu Asn Thr

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305          310          315          320
Thr Pro Leu Leu Ser Arg Ala Asp Leu Phe Asn Phe Phe Tyr Asn Leu
          325          330          335
Lys Ser Gly Gly His Val Glu Glu Ile Asp Thr Ile Cys Glu Ser Leu
          340          345          350
Leu Asp Ser Lys Thr Ser Phe Glu Lys Ile Ile Ser Lys Phe Asp Lys
          355          360          365
Ser Ile Arg Leu Ala Asp Cys Leu Asp Lys Gly Glu Leu Lys Leu Ile
          370          375          380
His Arg Cys Leu Glu Ile Thr Gly Arg Ser Ser Ser Ser Tyr Phe Arg
385          390          395          400
Phe Val Glu Arg Asp Arg Tyr Met Asn Asp Ile Val Thr Phe Ile Ile
          405          410          415
Asp His Phe Leu Asn Thr Asn Glu Thr Val Thr Leu Phe Gly His Leu
          420          425          430
Gly His Leu Asn Tyr Lys Gly Asn Arg Val Glu Leu Met Asp Tyr Phe
          435          440          445
Ser Leu Gly Tyr Tyr Leu Lys Ser Arg Tyr Ala Lys Asn Tyr Ser Cys
          450          455          460
Ile Gly Leu Ile Thr Asn Arg Gly Thr Ala Met Leu Pro Val Ser Ala
465          470          475          480
Thr Asn Gly Gly Val Thr Lys Leu Glu Gln Ala Pro Gln Gly Ser Leu
          485          490          495
Glu Phe Gln Val Asn Lys Leu Lys Met Asp Ser Val Tyr Leu Ser Met
          500          505          510
Ser Lys Phe Thr Cys Ser Asp Val Phe Leu Leu Arg Glu Leu Gly Ser
          515          520          525
Gly Phe Ser Gln Asn Lys Lys Ile Ile Pro Asn Gln Phe Gln Tyr Met
          530          535          540
Ile Pro Lys Ser Arg Met Glu Gly Val Ile Phe Thr Lys Glu Ser Val
545          550          555          560
Asn Phe Met Lys Gly Lys Glu Phe Phe Lys Lys Asn Met Asn Val Glu
          565          570          575
Val Val Thr Met Arg Phe Tyr Ile Lys Ala Leu Glu Lys Leu Thr Gln
          580          585          590
Lys Lys Ile Asp Leu Asn Ile
          595

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&lt;210&gt; 5755

&lt;211&gt; 470

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5755

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Ser Ser Ile Phe Ala Asp Ala Asn Leu Asn Ser Glu Phe Met Asn Glu
1          5          10          15
Leu Thr Gly Ala Asp Phe Lys Ser Ala Thr Ala Asp Asp Asn Lys Lys
          20          25          30
Leu Phe Ile Glu Thr Tyr Gly Cys Gln Met Asn Val Ala Asp Ser Glu
          35          40          45
Val Ile Ala Ser Val Met Gln Met Ala Gly Tyr Ser Val Ala Glu Thr
          50          55          60
Leu Glu Glu Ala Asp Ala Val Phe Met Asn Thr Cys Ser Ile Arg Asp
65          70          75          80
Asn Ala Glu Gln Lys Ile Leu Asn Arg Leu Glu Phe Phe His Ser Met
          85          90          95
Lys Lys Lys Lys Lys His Leu Ile Val Gly Val Leu Gly Cys Met Ala
          100          105          110
Glu Arg Val Lys Asp Asp Leu Ile Glu His His His Val Asp Leu Val

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      115              120              125
Val Gly Pro Asp Ala Tyr Leu Thr Leu Pro Glu Leu Ile Ala Ser Val
  130              135              140
Glu Ala Gly Glu Lys Ala Met Asn Val Glu Leu Ser Thr Thr Glu Thr
  145              150              155              160
Tyr Arg Asp Val Ile Pro Ser Arg Ile Cys Gly Asn His Ile Ser Gly
      165              170              175
Phe Val Ser Ile Met Arg Gly Cys Asn Asn Phe Cys Thr Tyr Cys Ile
      180              185              190
Val Pro Tyr Thr Arg Gly Arg Glu Arg Ser Arg Asp Val Glu Ser Ile
      195              200              205
Leu Asn Glu Val Ala Asp Leu Val Ser Lys Gly Tyr Lys Glu Ile Thr
      210              215              220
Leu Leu Gly Gln Asn Val Asn Ser Tyr Arg Phe Glu Lys Glu Gly Gly
  225              230              235              240
Glu Val Val Thr Phe Pro Met Leu Leu Arg Leu Val Ala Glu Ala Ala
      245              250              255
Pro Gly Ile Arg Val Arg Phe Thr Thr Ser His Pro Lys Asp Met Ser
      260              265              270
Asp Glu Thr Leu Glu Val Ile Ala Gln Val Pro Asn Val Cys Lys His
      275              280              285
Ile His Leu Pro Val Gln Ser Gly Ser Ser Arg Ile Leu Lys Leu Met
      290              295              300
Asn Arg Lys Tyr Thr Arg Glu Trp Tyr Leu Asp Arg Val Ala Ala Ile
  305              310              315              320
Lys Arg Ile Val Pro Asp Cys Gly Leu Thr Thr Asp Ile Phe Ser Gly
      325              330              335
Phe His Ser Glu Thr Glu Glu Asp His Arg Glu Ser Leu Ser Leu Met
      340              345              350
Glu Ala Cys Gly Tyr Asp Ala Ala Phe Met Phe Lys Tyr Ser Glu Arg
      355              360              365
Pro Gly Thr Tyr Ala Ser Lys His Leu Glu Asp Asn Val Ser Glu Glu
      370              375              380
Ile Lys Val Arg Arg Leu Asn Glu Ile Ile Ala Leu Gln Asn Arg Leu
  385              390              395              400
Ser Ala Glu Ser Asn Asn Arg Cys Ile Gly Lys Thr Tyr Glu Val Leu
      405              410              415
Val Glu Gly Val Ser Lys Arg Ser Arg Asp Gln Leu Phe Gly Arg Thr
      420              425              430
Glu Gln Asn Arg Val Val Val Phe Asp Arg Gly Thr His Arg Ile Gly
      435              440              445
Asp Phe Val Asn Val Arg Ile Thr Glu Ala Ser Ser Ala Thr Leu Lys
      450              455              460
Gly Glu Glu Val Phe Ser
  465              470

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&lt;210&gt; 5756

&lt;211&gt; 228

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5756

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Lys Asn Ile Ile Arg Ile Met Gly Thr Asn Asn Ser Asp Phe Tyr Leu
1              5              10              15
Pro Val Tyr Val Ile Asn Leu Lys Glu Arg Thr Glu Arg Arg Gln His
      20              25              30
Ile Glu Glu Gln Phe Gln Gly Lys Val Glu Phe Ala Leu His Trp Ile
      35              40              45
Glu Ala Ile Glu His Ser Ile Gly Ala Val Gly Leu Trp Gln Ser Met

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50 55 60  
 Leu Lys Ala Val Gln Thr Ala Ile Asp Lys Arg Asp Asp Ile Met Ile  
 65 70 75 80  
 Ile Cys Glu Asp Asp His Ile Phe Thr Pro Ala Tyr Asn Lys Asp Tyr  
 85 90 95  
 Leu Phe Ala Asn Ile Ile Gly Ala Asn Ala Gln Gly Ser Glu Leu Leu  
 100 105 110  
 Ser Gly Gly Val Gly Gly Phe Gly Thr Ala Val Pro Val Asp Thr Asn  
 115 120 125  
 Arg Tyr Trp Met Asp Trp Phe Trp Ser Thr Gln Phe Ile Ile Ile Phe  
 130 135 140  
 Lys Pro Leu Phe Gln Lys Ile Leu Asp Tyr Asp Phe Lys Asp Thr Asp  
 145 150 155 160  
 Thr Ala Asp Gly Val Leu Ser Val Leu Ala Lys Asp Lys Met Thr Ile  
 165 170 175  
 Tyr Pro Phe Ile Ser Val Gln Lys Asp Phe Gly Tyr Ser Asp Val Thr  
 180 185 190  
 Val Tyr Asn Gly Thr Pro Gly Met Ile Ser Asn Tyr Phe Ser Gln Ala  
 195 200 205  
 Asn Tyr Arg Leu Arg Met Ile His His Val Ser His Lys Phe Lys Glu  
 210 215 220  
 Gln Ala Lys Arg  
 225

<210> 5757

<211> 238

<212> PRT

<213> B.fragilis

<400> 5757

Asn Thr Ala Ile Asn Tyr Ser Ser Glu Trp Ala Lys Gln Ser Thr Ile  
 1 5 10 15  
 Asn Tyr Tyr Asp Ile Glu Pro Gly Lys Ile His Val Val Glu Phe Gly  
 20 25 30  
 Ala Asn Ile Pro Thr Pro Ser Asp Tyr Lys Ile Asp Ile Gln Thr Asp  
 35 40 45  
 Ile Cys Asn Leu Val Phe Ile Gly Lys Asn Trp Gln Lys Lys Gly Gly  
 50 55 60  
 Asp Lys Val Leu Gly Ala Tyr Arg Lys Leu Lys Ser Asp Gly Phe Arg  
 65 70 75 80  
 Cys Thr Leu Thr Ile Ile Gly Ser Ile Ile Arg Glu Pro Tyr Asp Glu  
 85 90 95  
 Asp Glu Asn Leu Val Ile Ile Pro Tyr Leu Asp Lys Ser Gln Pro Glu  
 100 105 110  
 His Leu Glu Arg Phe Cys Asn Ile Leu Gln Glu Ala His Phe Leu Val  
 115 120 125  
 Leu Pro Thr Glu Phe Asp Ala Phe Gly Ile Val Phe Cys Glu Ala Ser  
 130 135 140  
 Ala Tyr Ala Val Pro Ser Ile Ala Ala Asn Val Gly Gly Val Ser Gln  
 145 150 155 160  
 Pro Val Arg Glu Gly Lys Asn Gly Tyr Leu Leu Met Pro Asp Ala Thr  
 165 170 175  
 Ala Glu Asp Tyr Ala Glu Lys Ile Lys Ser Val Phe Ala Asp Lys Glu  
 180 185 190  
 Asn Tyr Leu Lys Leu Arg Met Ser Ser Arg Gln Glu Phe Glu Thr Arg  
 195 200 205  
 Leu Asn Trp Glu Val Trp Ser Glu Lys Val Asn Lys Ile Leu Glu Glu  
 210 215 220  
 Ile Val Glu Glu His His Lys Asn Asn Gly Asn Lys Gln Gln

225

230

235

&lt;210&gt; 5758

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5758

Glu	Leu	Arg	Ile	Leu	Val	His	Ala	Gly	Ile	Pro	Ala	Pro	Lys	Thr	Ile
1				5					10					15	
Gln	Phe	Ile	Ser	Gly	Arg	Phe	Leu	Leu	Arg	Ile	Gln	Ala	Val	Ala	His
			20					25					30		
Tyr	Phe	Arg	Phe	Pro	Pro	Gly	Lys	Tyr	Ala	Leu	Glu	Ala	Met	Ile	Gly
		35					40					45			
Met	Gln	His	Arg	Val	Arg	Pro	Phe	Lys	Arg	Glu	Leu	Leu	Val	Arg	Gln
	50					55					60				
Gln	Lys	Arg	Leu	Ala	Tyr	Arg	Phe	Gln	Ala	Phe	Val	Ala	Phe	Thr	Ser
65					70					75					80
Ala	Glu	Arg	Val	Lys	Glu	Val	Lys	Gln	Val	Asp	Thr	Ala	Leu		
				85					90						

&lt;210&gt; 5759

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5759

Leu	Val	Ser	Ile	Met	Lys	Lys	Leu	Asn	Leu	Phe	Ile	Leu	Phe	Ser	Phe
1				5					10					15	
Cys	Phe	Ser	Ile	Ile	Thr	Trp	Gly	Gln	Ala	Asn	Phe	Ala	Ala	Ile	Asp
			20					25					30		
Ser	Leu	Ile	Lys	Lys	Glu	Leu	Pro	Gln	Gly	Ser	Glu	Val	Gly	Ile	Ser
		35					40					45			
Val	Tyr	Asp	Leu	Thr	Ala	Arg	Lys	Thr	Leu	Tyr	Thr	Tyr	Arg	Asp	Thr
	50					55					60				
Lys	Leu	Ser	Arg	Pro	Ala	Ser	Thr	Met	Lys	Leu	Leu	Thr	Thr	Ile	Thr
65					70					75					80
Ala	Leu	Gly	Pro	Ala	Gly	Arg	Arg								
				85											

&lt;210&gt; 5760

&lt;211&gt; 562

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5760

Lys	Lys	Glu	Met	Lys	Val	Leu	Asp	Phe	Lys	Pro	Arg	Leu	Phe	Ser	Thr
1				5					10					15	
Leu	Lys	Asn	Tyr	Ser	Lys	Glu	Thr	Phe	Met	Ser	Asp	Leu	Met	Ala	Gly
			20					25					30		
Ile	Ile	Val	Gly	Ile	Val	Ala	Leu	Pro	Leu	Ala	Ile	Ala	Phe	Gly	Ile
		35					40					45			
Ala	Ser	Gly	Val	Ser	Pro	Glu	Lys	Gly	Ile	Ile	Thr	Ala	Ile	Ile	Ala
	50					55					60				
Gly	Phe	Ile	Ile	Ser	Leu	Gly	Gly	Ser	Lys	Val	Gln	Ile	Gly	Gly	
65					70				75					80	
Pro	Thr	Gly	Ala	Phe	Ile	Val	Ile	Ile	Tyr	Gly	Ile	Ile	Gln	Gln	Tyr
				85					90				95		
Gly	Glu	Ala	Gly	Leu	Ile	Val	Ala	Thr	Leu	Met	Ala	Gly	Ile	Leu	Leu



<210> 5761  
 <211> 810  
 <212> PRT  
 <213> B.fragilis

<400> 5761

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Phe Asn Ala Val Lys Cys Met Lys Gln Ile Tyr Ser Thr Leu Leu Leu
1      5      10      15
Leu Val Leu Leu Ile Phe Pro Ser Leu Leu Phe Ala Thr Glu Pro Glu
20      25      30
Ser Val Asp Arg Val Pro Ala Ile Arg Gly Val Val Tyr Asp Glu Thr
35      40      45
Asp Thr Pro Leu Ala Ser Ala Thr Val Gln Ile Glu Gly Thr Thr Ile
50      55      60
Gly Thr Thr Thr Asn Ser Glu Gly Arg Phe Ile Leu Arg Asn Leu Ala
65      70      75      80
Arg Lys Val Tyr Lys Ile Asn Val Ser Phe Val Gly Tyr Ala Thr Gln
85      90      95
Thr Arg Thr Val Asp Leu Thr Ser Arg Ser Val Ala Gln Leu Ser Phe
100     105     110
Thr Leu Leu Pro Asp Asp Asn Leu Ser Thr Val Glu Val Phe Gly
115     120     125
Glu Arg Tyr Lys Gln Pro Lys Lys Leu Asp Ala Ile Thr Arg Met Pro
130     135     140
Leu Arg Pro Ser Glu Gln Ile Gln Ser Ile Ser Val Ile Ser Glu Lys
145     150     155     160
Ser Ile Thr Glu Gln Gly Ala Leu Thr Val Thr Asp Val Ala Arg Asn
165     170     175
Val Pro Gly Val Thr Leu Phe Gly Ser Tyr Gly Gly Val Arg Glu Ser
180     185     190
Met Ser Ile Arg Gly Tyr Arg Gly Val Pro Ile Leu Lys Asn Gly Val
195     200     205
Arg Ile Asp Ser Asp Phe Arg Thr Gly Ser Ala Leu Ser Glu Met Gln
210     215     220
Gly Val Glu Ser Ile Gln Val Ile Lys Gly Ser Ala Ala Val Thr Gln
225     230     235     240
Gly Ile Gly Asn Asp Leu Gly Ser Ala Gly Gly Val Ile Asn Val Val
245     250     255
Thr Lys Thr Pro Lys Phe Thr Asn Glu Gly Glu Val Ser Leu Arg Ala
260     265     270
Gly Ser Trp Gly Leu Phe Arg Pro Thr Phe Asp Val Gln Ser Val Leu
275     280     285
Asp Lys Asn Gln Thr Ile Ala Phe Arg Met Asn Gly Ala Phe Glu Arg
290     295     300
Ser Asp Asn Tyr Arg Pro Val Ile His Ser Asn Arg Val Tyr Ile Asn
305     310     315     320
Pro Ser Leu Glu Trp Arg Pro Asp Asp Lys Thr Ser Val Thr Ile Glu
325     330     335
Met Asp Tyr Leu Asn Asp Asn Arg Thr Pro Tyr Thr Ser Ser Val Asn
340     345     350
Leu Ser Lys Asp Thr Glu Glu Asn Leu Tyr Asp Met Pro His Asn Lys
355     360     365
Phe Leu Gly Phe Lys Asn Asp Asn Val Asn Asn Lys Thr Leu Thr Tyr
370     375     380
Ala Ala Arg Ile Thr Arg Gln Leu Thr Asp Asn Ile Ser Val Arg Ala
385     390     395     400
Ala Tyr Phe Gly Ser Ser Tyr Lys Val Asp Asn Thr Ser Thr Ser Val
405     410     415

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Lys Thr Val Val Asn Lys Glu Tyr Asn Met Arg Arg Arg Thr Ile Ser  
 420 425 430  
 Arg Ser Leu Arg Asp Asp Arg Asn Ser Thr Phe Gln Leu Asp Phe Ile  
 435 440 445  
 Gly Arg Asp Ile Phe Thr Gly Pro Val Lys His Thr Phe Gln Leu Gly  
 450 455 460  
 Phe Asp Tyr Lys Asn Thr Asp Leu Ser Ile Thr Asn Tyr Thr Pro Val  
 465 470 475 480  
 Asn Ile Asp Thr Ile Asn Val Leu Ala Pro Ser Ile Ser Asn Val Leu  
 485 490 495  
 Pro Val Ala Val Lys Phe Val Pro Glu Ile Pro Val Glu Ser Asn Ser  
 500 505 510  
 Ser Ser Tyr Gly Ile Met Ala Gln Glu Val Met Thr Phe Asn Lys Tyr  
 515 520 525  
 Ile Lys Ala Ile Leu Gly Leu Arg Tyr Ser Tyr Ile Ser Ser Gln Asp  
 530 535 540  
 Gly Thr Ser Ala Gly Pro Thr Thr Gly Asp Ala Trp Asn Pro Met Leu  
 545 550 555 560  
 Gly Ile Met Leu Thr Pro Val Lys Asn Ile Asn Leu Phe Gly Ser Tyr  
 565 570 575  
 Thr Thr Thr Thr Ser Leu Leu His Ala Ala Arg Arg Met Glu Asn Gly  
 580 585 590  
 Asp Glu Ile Gly Pro Ser Lys Thr Arg Gln Phe Glu Val Gly Ile Lys  
 595 600 605  
 Ser Asp Trp Leu Asn Asn Arg Leu Arg Phe Asn Leu Thr Tyr Phe Asp  
 610 615 620  
 Ile Leu Thr Lys Asn Leu Ser Tyr Ser Thr Tyr His Pro Gly Thr Thr  
 625 630 635 640  
 Gln Pro Thr Gly Tyr Phe Asp Lys Ala Gly Ser Leu Lys Arg Lys Gly  
 645 650 655  
 Ile Glu Thr Glu Leu Ser Gly Ser Ile Leu Glu Asn Leu Gln Val Met  
 660 665 670  
 Met Gly Tyr Ala Tyr Leu Asp Ala Lys Tyr Glu Asn Ser Pro Ala Phe  
 675 680 685  
 Lys Asn Gly Ser Ala Pro Met Asn Thr Pro Lys His Thr Ala Asn Gly  
 690 695 700  
 Trp Ile Gln Tyr Arg Phe Asp Lys Gly Val Leu Lys Arg Leu Ser Ala  
 705 710 715 720  
 Gly Ile Gly Val Tyr Phe Val Gly Lys Arg Pro Val Asn Asp Phe Ala  
 725 730 735  
 Ile Lys Pro Asp Gly His Gly Ser Met Thr Asn Glu Lys Pro Phe Asp  
 740 745 750  
 Met Pro Gly Tyr Thr Thr Ile Asn Ala Gln Leu Ala Tyr Ser Ile His  
 755 760 765  
 Lys Phe Thr Ala Arg Val Tyr Leu Asn Asn Leu Phe Asp Ala Leu Gly  
 770 775 780  
 Tyr Asn Ser Tyr Tyr Arg Gly Gly Tyr Ile Asn Gln Ile Asp Pro Arg  
 785 790 795 800  
 Asn Phe Ser Ala Val Ile Ser Tyr His Phe  
 805 810

&lt;210&gt; 5762

&lt;211&gt; 372

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5762

Thr His Ala Val Met Ser Met Ala Ile Asn Leu Asp Asn Gln Phe Asn  
 1 5 10 15

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Leu Pro Ala Asp Tyr Gly Ser Leu Asp Ser Arg Trp Asn Arg Asn Gln
      20      25      30
Val Gly Pro Phe Ile Lys Leu Leu Lys Lys Phe Val Lys Asp Ser Arg
      35      40      45
Phe Asp Ala Phe Tyr His Ser Asn Glu Asn Leu Tyr Gln Glu Ala Val
      50      55      60
Ser Arg Phe Met Pro Ile Tyr Lys Ser Ile Asp Thr Gln Trp Tyr Asn
      65      70      75      80
Asp Phe Tyr Gly Gln Lys Ser Asn Asp Arg Phe His Ile Ile Leu Ser
      85      90      95
Met Ser Asn Gly Pro Gly Asn Tyr Gly Pro Ser Val Thr Asp Lys Glu
      100      105      110
Asn Ile His Asn Val Phe Ser Val Met Gly Ala Trp Val Thr Asp Ser
      115      120      125
Val Gly Met Val Val Tyr Pro Pro Glu Leu Ile Leu Pro Ile Leu Ile
      130      135      140
His Glu Phe Asn His Ser Phe Ile Asn Phe Asp Pro Glu Met Phe Arg
      145      150      155      160
Thr Ser Gly Glu Gln Ile Tyr Ala Ala Val Gly Glu Gln Met Ala Arg
      165      170      175
Gln Ala Tyr Gly Gln Trp Ser Ile Val Leu Thr Glu Ala Met Val Arg
      180      185      190
Ala Ala Val Ile Lys Tyr Met Lys Asp His Asn Phe Pro Ala Val Glu
      195      200      205
Ile Thr Lys Glu Thr Val Ile Gln Lys Thr Arg Gly Phe Val Trp Ile
      210      215      220
Ser Lys Leu Val Asp Glu Leu Glu Lys Tyr Ser Ser Asp Arg Thr Thr
      225      230      235      240
Tyr Pro Thr Leu Asn Ser Tyr Met Pro Arg Leu Ala Glu Ala Tyr Thr
      245      250      255
Gly Phe Ala Gln Tyr Thr Ala Asn Tyr Asp Ser Ile Arg Pro Lys Val
      260      265      270
Val Ser Ile Asp Glu Phe Thr Asn Gly Asp Thr Thr Val Arg Ser Asp
      275      280      285
Ile Lys Thr Ile Thr Val His Phe Asp Arg Pro Leu Val Gly Arg Gly
      290      295      300
His Ser Phe Asn Tyr Gly His Leu Gly Met Glu Ala Met Pro Lys Ile
      305      310      315      320
Ile Asn Val Asn Tyr Ala Asn Asp Asn Arg Thr Val Ile Ile Gly Val
      325      330      335
Glu Leu Leu Pro Gly Lys Glu Tyr Gly Ile Thr Leu Leu Gly Leu Ser
      340      345      350
Phe Arg Thr Pro Glu Gly Asp Ala Ile Lys Pro Tyr Glu Ile Ser Phe
      355      360      365
Lys Thr Ala Glu
      370

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&lt;210&gt; 5763

&lt;211&gt; 373

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5763

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Ile Pro Ile Leu Asp Pro Ile Ile Asn Pro Leu His Asn Thr Ile Met
1      5      10      15
Lys Asn Lys Ser Ala Cys Phe Phe Val Leu Ser Leu Phe Val Cys Ser
      20      25      30
Met Phe Thr Ser Cys Asn Lys Glu Ser Thr Thr Glu Cys Gln Thr Ile
      35      40      45

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Asp Phe Ser Thr Leu Phe Asp Gly Gln Pro Glu Lys Ile Pro Leu Lys  
 50 55 60  
 Glu Trp Ala Lys Ser Ile His Phe Val Gln Leu Glu Thr Asn Asp Ser  
 65 70 75 80  
 Ile Leu Ile Gly Asn Ile Arg Ala Thr Ile Leu His Lys Asp Lys Ile  
 85 90 95  
 Leu Val His His Asn Asn Leu Ser Leu Phe Asp Leu Ser Gly Lys Phe  
 100 105 110  
 Ile Cys Asn Ile Gly Ser Lys Gly Gly Gly Pro Thr Glu Tyr Ser Gly  
 115 120 125  
 Ile Asn Asn Ala Trp Thr Asp Asp Glu Gly Ile His Ile Phe Asp Ile  
 130 135 140  
 Ala Asn Lys Ile Lys Thr Tyr Asn Trp Asn Gly Lys Trp Ile Lys Thr  
 145 150 155 160  
 Glu Pro Ile Pro Glu Ser Asn Ile Lys Glu Val Phe Pro Leu Ala Ser  
 165 170 175  
 Gly Asn Asn Ile Lys Ala Gly Tyr Ile Gln Asn Ile Thr Gly Asn Glu  
 180 185 190  
 Pro His Lys Ile Tyr Leu Phe Lys Asp Ser Thr Ile Leu Ala Lys Ile  
 195 200 205  
 Pro Tyr Gly Lys Ser Phe Gln Lys Gly Glu Met Thr Met Val Phe Tyr  
 210 215 220  
 Asn Glu Cys Tyr Pro Phe His Ala Asn Gly Arg Thr Phe Phe Lys Glu  
 225 230 235 240  
 Met Phe Asn Asp Thr Ile Phe Ser Ile Asp Asn Gln Tyr Gln Pro Val  
 245 250 255  
 Pro Arg Trp Tyr Ile Glu Leu Gly Lys Tyr Lys Ile Ala Glu Asp Ala  
 260 265 270  
 Arg Tyr Thr Leu Thr Asp Pro Arg Lys Ser Val Phe Asp Asn Ala Ala  
 275 280 285  
 Thr Leu Thr Pro Ile Gly Lys Trp Asp Asn Lys Leu Phe Phe Ser Ala  
 290 295 300  
 Arg Ala Asn Lys Gln Asn Tyr Leu Phe Tyr Tyr Asp Leu Lys Glu Lys  
 305 310 315 320  
 Lys Ser Asn Ser Ile Gln Ile Ser Tyr Pro Glu Asn Ser Phe Ala Ile  
 325 330 335  
 Pro Glu Glu His Ser Phe Ile Pro Lys Cys Met Ser Asp Asp Gly Lys  
 340 345 350  
 Tyr Leu Ile Ser Tyr Glu Ile Gln Glu Asn Asp Glu Asn Pro Val Ile  
 355 360 365  
 Ile Leu Ala Glu Lys  
 370

&lt;210&gt; 5764

&lt;211&gt; 965

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5764

Ser Cys Lys Phe Ala Pro Ser Tyr Lys Ala Tyr Ile Ile Asn His Tyr  
 1 5 10 15  
 Lys Gln Lys Val Ile Ala Met Glu Tyr Asn Phe Arg Glu Ile Glu Lys  
 20 25 30  
 Lys Trp Gln Lys Ile Trp Val Asp Asn His Thr Tyr Gln Val Asn Glu  
 35 40 45  
 Asp Ala Ser Lys Gln Lys Phe Tyr Val Leu Asn Met Phe Pro Tyr Pro  
 50 55 60  
 Ser Gly Ala Gly Leu His Val Gly His Pro Leu Gly Tyr Ile Ala Ser  
 65 70 75 80

Asp Ile Tyr Ala Arg Tyr Lys Arg Leu Gln Gly Phe Asn Val Leu Asn  
 85 90 95  
 Pro Met Gly Tyr Asp Ala Tyr Gly Leu Pro Ala Glu Gln Tyr Ala Ile  
 100 105 110  
 Gln Thr Gly Gln His Pro Ala Ile Thr Thr Val Asn Asn Ile Asn Arg  
 115 120 125  
 Tyr Arg Glu Gln Leu Asp Lys Ile Gly Phe Ser Phe Asp Trp Asn Arg  
 130 135 140  
 Glu Ile Arg Thr Cys Asp Pro Glu Tyr Tyr His Trp Thr Gln Trp Ala  
 145 150 155 160  
 Phe Ile Lys Met Phe Asn Ser Tyr Tyr Cys Asn Asp Glu Lys Gln Ala  
 165 170 175  
 Arg Pro Ile Glu Glu Leu Ile Glu Ala Phe Ser Thr Asn Gly Thr Gln  
 180 185 190  
 Gly Met Asn Val Ala Cys Gly Glu Glu Met Asp Phe Thr Ala Asp Glu  
 195 200 205  
 Trp Asn Ala Lys Ser Glu Lys Glu Gln Gln Glu Ile Leu Met Asn Tyr  
 210 215 220  
 Arg Ile Ala Tyr Leu Gly Asn Thr Met Val Asn Trp Cys Pro Ala Leu  
 225 230 235 240  
 Gly Thr Val Leu Ala Asn Asp Glu Val Val Asp Gly Val Ser Glu Arg  
 245 250 255  
 Gly Gly Tyr Pro Val Ile Gln Lys Val Met Arg Gln Trp Cys Leu Arg  
 260 265 270  
 Val Ser Ala Tyr Ala Gln Arg Leu Leu Asp Gly Leu Glu Thr Val Glu  
 275 280 285  
 Trp Thr Asp Ser Leu Lys Glu Thr Gln Arg Asn Trp Ile Gly Arg Ser  
 290 295 300  
 Glu Gly Ala Glu Met Asn Phe Lys Val Lys Asp Ser Asp Ile Glu Phe  
 305 310 315 320  
 Thr Ile Phe Thr Thr Arg Ala Asp Thr Val Phe Gly Val Thr Phe Met  
 325 330 335  
 Val Leu Ala Pro Glu Ser Glu Leu Val Ala Lys Leu Thr Thr Pro Glu  
 340 345 350  
 Gln Lys Ala Glu Val Asp Ala Tyr Leu Asp Arg Thr Lys Lys Arg Thr  
 355 360 365  
 Glu Arg Glu Arg Ile Ala Asp Arg Ser Val Ser Gly Val Phe Ser Gly  
 370 375 380  
 Ser Tyr Ala Ile Asn Pro Leu Thr Asn Glu Pro Ile Pro Val Trp Ile  
 385 390 395 400  
 Ser Asp Tyr Val Leu Ala Gly Tyr Gly Thr Gly Ala Ile Met Ala Val  
 405 410 415  
 Pro Ala His Asp Ser Arg Asp Tyr Ala Phe Ala Lys His Phe Asn Leu  
 420 425 430  
 Glu Ile Arg Pro Leu Ile Glu Gly Cys Asp Val Ser Glu Glu Ser Phe  
 435 440 445  
 Asp Ala Lys Glu Gly Ile Met Met Asn Ser Pro Arg Pro Gly Ala Pro  
 450 455 460  
 Glu Gly Gly Leu Val Leu Asn Gly Leu Thr Val Lys Glu Ala Ile Ala  
 465 470 475 480  
 Lys Thr Lys Glu Tyr Ile Lys Ala Thr Gly Leu Gly Arg Val Lys Val  
 485 490 495  
 Asn Phe Arg Leu Arg Asp Ala Ile Phe Ser Arg Gln Arg Tyr Trp Gly  
 500 505 510  
 Glu Pro Phe Pro Val Tyr Tyr Lys Asp Gly Met Pro Tyr Met Ile Asp  
 515 520 525  
 Glu Ser Cys Leu Pro Leu Glu Leu Pro Glu Val Ala Lys Phe Leu Pro  
 530 535 540  
 Thr Glu Thr Gly Glu Pro Pro Leu Gly His Ala Thr Lys Trp Ala Trp



545		550		555		560
Asp Thr Val Asn Lys Cys Val Thr Asp Asn Glu Asn Ile Asp Asn Ile						
	565		570		575	
Thr Ile Phe Pro Leu Glu Leu Asn Thr Met Pro Gly Phe Ala Gly Ser						
	580		585		590	
Ser Ala Tyr Tyr Leu Arg Tyr Met Asp Pro Arg Asn His Glu Ala Leu						
	595		600		605	
Val Ser Pro Ala Val Asp Gln Tyr Trp Lys Asn Val Asp Leu Tyr Val						
	610		615		620	
Gly Gly Thr Glu His Ala Thr Gly His Leu Ile Tyr Ser Arg Phe Trp						
	625		630		635	
Asn Lys Phe Leu His Asp Trp Gly Ile Ser Val Ala Glu Glu Pro Phe						
	645		650		655	
Gln Lys Leu Val Asn Gln Gly Met Ile Gln Gly Arg Ser Asn Phe Val						
	660		665		670	
Tyr Arg Ile Lys Asp Thr Asn Thr Phe Val Ser Leu Asn Leu Lys Asp						
	675		680		685	
Gln Tyr Glu Val Thr Pro Ile His Val Asp Val Asn Ile Val Ser Asn						
	690		695		700	
Asp Ile Leu Asp Leu Glu Ala Phe Lys Ala Trp Arg Pro Glu Tyr Glu						
	705		710		715	
Thr Ala Glu Phe Ile Leu Glu Asp Gly Lys Tyr Ile Cys Gly Trp Ala						
	725		730		735	
Val Glu Lys Met Ser Lys Ser Met Phe Asn Val Val Asn Pro Asp Met						
	740		745		750	
Ile Val Glu Lys Tyr Gly Ala Asp Thr Leu Arg Met Tyr Glu Met Phe						
	755		760		765	
Leu Gly Pro Val Glu Gln Ser Lys Pro Trp Asp Thr Asn Gly Ile Asp						
	770		775		780	
Gly Val His Arg Phe Ile Lys Lys Phe Trp Ser Leu Phe Tyr Asp Arg						
	785		790		795	
Asn Gly Glu Tyr Leu Val Lys Asp Glu Pro Ala Thr Lys Glu Glu Leu						
	805		810		815	
Lys Ala Leu His Lys Leu Ile Lys Lys Val Thr Gly Asp Ile Glu Gln						
	820		825		830	
Phe Ser Tyr Asn Thr Ser Val Ser Ala Phe Met Ile Cys Val Asn Glu						
	835		840		845	
Leu Ser Ser Leu Lys Cys Asn Lys Lys Glu Val Leu Glu Gln Leu Ile						
	850		855		860	
Val Val Leu Ala Pro Phe Ala Pro His Val Cys Glu Glu Leu Trp Asp						
	865		870		875	
Thr Leu Gly Asn Ile Thr Ser Val Cys Asp Ala Gln Trp Pro Ala Phe						
	885		890		895	
Asn Glu Gln Tyr Leu Val Glu Asp Thr Val Asn Tyr Thr Ile Ser Phe						
	900		905		910	
Asn Gly Lys Ala Arg Phe Asn Met Glu Phe Pro Ala Asp Ala Ala Ser						
	915		920		925	
Asp Ala Ile Gln Ala Thr Val Leu Ala Asp Glu Arg Ser Leu Lys Trp						
	930		935		940	
Thr Glu Gly Lys Thr Pro Lys Lys Val Ile Val Val Pro Lys Lys Ile						
	945		950		955	
Val Asn Ile Val Ile						
	965					

&lt;210&gt; 5765

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5765

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Met Ser Phe Ser Leu Val Thr Val Thr Tyr Asn Ser Ala Gln Thr Leu
1      5      10      15
Arg Asp Thr Ile Thr Ser Val Leu Ser Gln Thr His Gln Ala Ile Glu
      20      25      30
Tyr Ile Ile Ile Asp Gly Phe Ser Lys Asp Asn Thr Val Ala Ile Ile
      35      40      45
Lys Glu Tyr Glu Pro Leu Phe Asn Gly Arg Leu Lys Trp Ile Ser Glu
      50      55      60
Lys Asp Asn Gly Leu Tyr Asp Ala Met Asn Lys Gly Phe Gln Met Ala
      65      70      75      80
Thr Gly Asp Val Ile Gly Ile Ile Asn Ser Asp Asp Leu Ile Ser Asp
      85      90      95
Pro Asn Ala Ile Glu Lys Val Ile Lys Cys Phe Glu Ser Asp Thr Ser
      100      105      110
Ile Asp Ala Val Tyr Ala Asp Leu Tyr Tyr Val Ala Gln Asn Asp Ile
      115      120      125
Ser Lys Ile Val Arg Tyr Trp Lys Ser Gly Gly Gln Arg Pro Phe Cys
      130      135      140
Lys Gly Trp His Pro Ala His Pro Thr Phe Tyr Val Lys Lys Glu Val
      145      150      155      160
Tyr Gln Arg Tyr Gly Leu Phe Asp Leu Asp Phe Lys Phe Ala Ala Asp
      165      170      175
Phe Glu Leu Met Leu Arg Leu Ile Asp Lys Glu His Ile Lys Leu Tyr
      180      185      190
Tyr Leu Pro Glu Pro Leu Val Arg Met Arg Leu Gly Gly Thr Thr Ser
      195      200      205
Lys Asn Leu Ser Asn Ile Arg Lys Gly Asn Leu Glu Cys Ile Asn Ala
      210      215      220
Phe Lys Lys Asn Gly Ile Lys Val Ser Met Leu Tyr Pro Leu Tyr Arg
      225      230      235      240
Leu Leu Pro Lys Ile Arg Gln Tyr Phe Gln
      245      250

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&lt;210&gt; 5766

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5766

```

Asn Lys Arg Phe Glu Phe Met Asn Thr Leu Leu Met Ser Leu Ile Phe
1      5      10      15
Thr Thr Met Thr Tyr Glu Met Pro Lys Leu Pro Tyr Ala Asn Asn Ala
      20      25      30
Leu Glu Pro Val Ile Ser Gln Gln Thr Ile Asp Tyr His Tyr Gly Lys
      35      40      45
His Leu Gln Thr Tyr Val Asn Asn Leu Asn Ser Leu Val Pro Gly Thr
      50      55      60
Glu Tyr Glu Gly Lys Thr Val Glu Ala Ile Val Ala Ser Ala Pro Asp
      65      70      75      80
Gly Ala Ile Phe Asn Asn Ala Gly Gln Val Leu Asn His Thr Leu Tyr
      85      90      95
Phe Leu Gln Phe Ala Pro Lys Pro Ala Lys Asn Glu Pro Ala Gly Lys
      100      105      110
Leu Gly Glu Ala Ile Lys Arg Asp Phe Gly Ser Phe Glu Asn Phe Lys
      115      120      125
Lys Glu Phe Asn Ala Ala Ser Val Gly Leu Phe Gly Ser Gly Trp Ala
      130      135      140
Trp Leu Ser Val Asp Lys Asp Gly Lys Leu His Ile Thr Lys Glu Pro

```

145		150		155		160
Asn Gly Ser Asn Pro Val Arg Ala Gly Leu Lys Pro Leu Leu Gly Phe						
		165		170		175
Asp Val Trp Glu His Ala Tyr Tyr Leu Asp Tyr Gln Asn Arg Arg Ala						
		180		185		190
Asp His Val Asn Lys Leu Trp Glu Ile Ile Asp Trp Asp Val Val Glu						
		195		200		205
Lys Arg Leu						
210						

&lt;210&gt; 5767

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5767

Arg Phe Glu Ser Gly Asp Gly Leu Asp Thr Cys Gln Glu Lys Lys Ser						
1		5		10		15
Val Thr Leu Phe Phe Phe Leu Gln Leu Ala Gln Gln Ile Pro Ile Val						
		20		25		30
Ile Phe Lys Phe Lys Arg Gln Ile Ile Arg Val Ala Val Val Phe Glu						
		35		40		45
Asn Arg Val Glu Val Arg Ala Val Val Asn Ala Phe Val Ser Asn Ala						
		50		55		60
Gly Asn Ala Glu Ile Met Arg Asn Ile Gly Tyr Cys Ile Met Gln Leu						
65		70		75		80
Phe Gly Lys Gly Val Gly Gly Ile Tyr Gln Lys Ala Asn Val Val Leu						
		85		90		95
Ala Thr Glu Ser Phe Gln Gly Ser Pro Gly His Gly Ala Ala Gln Ala						
		100		105		110
Tyr Ala Met Met Gln Val Asp Ile Leu Phe Val Thr Phe Gly						
		115		120		125

&lt;210&gt; 5768

&lt;211&gt; 283

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5768

Ser Val Arg Ser Val Thr Leu Ser Leu Pro Val Ser Asn Phe Arg Leu						
1		5		10		15
Leu Thr Phe Asn Asn Leu Ser Ser Ile Met Lys Ala Val Ile Leu Ala						
		20		25		30
Gly Gly Phe Gly Thr Arg Leu Ser Glu Ala Thr Asn Leu Ile Pro Lys						
		35		40		45
Pro Met Val Glu Ile Gly Gly Lys Pro Ile Leu Trp His Ile Met Lys						
		50		55		60
Thr Tyr Ser His Tyr Gly Ile Asn Asp Phe Val Ile Cys Cys Gly Tyr						
65		70		75		80
Lys Gln Tyr Ile Ile Lys Glu Tyr Phe Ala Asn Tyr Phe Arg His Asn						
		85		90		95
Ser Asp Met Thr Val Asp Leu Ser Asn Asn Thr Thr Thr Ile Leu Asp						
		100		105		110
Asn His Ser Glu Asn Trp Lys Val Thr Met Val Asp Thr Gly Leu Asn						
		115		120		125
Thr Gln Thr Gly Gly Arg Ile Arg Arg Val Gln Lys Tyr Leu Gly Asn						
		130		135		140
Glu Arg Phe Leu Leu Thr Tyr Gly Asp Gly Val Thr Asp Leu Asn Ile						
145		150		155		160

Gly Asp Thr Leu Lys Ala His Glu Ser Ser Gly Cys Leu Leu Ser Leu  
 165 170 175  
 Thr Ala Tyr Lys Pro Gly Gly Lys Phe Gly Ala Leu Gln Leu Asp Leu  
 180 185 190  
 Asp Thr Asp Lys Val Leu Ser Phe Gln Glu Lys Pro Asp Gly Asp Arg  
 195 200 205  
 Asn Trp Ile Asn Ala Gly Tyr Phe Val Cys Glu Pro Glu Val Phe Asp  
 210 215 220  
 Tyr Ile Pro Glu Gly Asp Ser Thr Ile Phe Glu Arg Gln Pro Leu Glu  
 225 230 235 240  
 Ser Ile Ala Lys Ala Gly Arg Met His Ala Phe Arg His Thr Gly Phe  
 245 250 255  
 Trp Lys Pro Met Asp Thr Leu Arg Asp Asn Thr Glu Leu Asn Glu Met  
 260 265 270  
 Trp Asp Gln Gly Val Ala Pro Trp Lys Val Trp  
 275 280

<210> 5769

<211> 374

<212> PRT

<213> B.fragilis

<400> 5769

Asn Val Gly Ser Gly Ser Arg Ser Leu Glu Ser Val Val Ser Arg Met  
 1 5 10 15  
 Gly Ile Asp Ile Phe Asp Asn Phe Tyr Arg Gly Lys Arg Val Leu Val  
 20 25 30  
 Thr Gly His Thr Gly Phe Lys Gly Ser Trp Leu Ser Ile Trp Leu His  
 35 40 45  
 Glu Leu Gly Ala Glu Val Ile Gly Val Ala Gln Asp Pro Phe Thr Ala  
 50 55 60  
 Arg Asp Asn Phe Val Leu Ser Gly Ile Gly Glu Lys Ile Lys Ala Asp  
 65 70 75 80  
 Leu Arg Ala Asp Ile Arg Asp Gly Glu Arg Ile Lys Ala Ile Phe Gln  
 85 90 95  
 Glu Tyr Gln Pro Glu Ile Val Phe His Leu Ala Ala Gln Pro Leu Val  
 100 105 110  
 Arg Leu Ser Tyr Asp Ile Pro Val Glu Thr Tyr Glu Thr Asn Val Met  
 115 120 125  
 Gly Thr Ile His Val Leu Glu Ala Val Arg Ser Thr Asp Ser Val Lys  
 130 135 140  
 Val Gly Val Met Ile Thr Thr Asp Lys Cys Tyr Glu Asn Lys Glu Gln  
 145 150 155 160  
 Ile Trp Gly Tyr Arg Glu Asn Glu Pro Met Gly Gly Tyr Asp Pro Tyr  
 165 170 175  
 Ser Ser Ser Lys Gly Ala Ala Glu Ile Ala Ile Ala Ser Trp Arg Arg  
 180 185 190  
 Ser Phe Phe Asn Pro Glu Gln Tyr Asp Lys His Gly Lys Ser Ile Ala  
 195 200 205  
 Ser Val Arg Ala Gly Asn Val Ile Gly Gly Gly Asp Trp Ala Leu Asp  
 210 215 220  
 Arg Ile Ile Pro Asp Cys Ile Lys Ala Leu Glu Ser Gly Ala Ala Ile  
 225 230 235 240  
 Asp Ile Arg Ser Pro Lys Ala Ile Arg Pro Trp Gln His Val Leu Glu  
 245 250 255  
 Pro Leu Ser Gly Tyr Met Leu Leu Ala Gln Lys Met Trp Asp Ala Pro  
 260 265 270  
 Thr Asp Tyr Cys Glu Gly Trp Asn Phe Gly Pro His Ser Glu Ser Ile  
 275 280 285

## 2501

Ser Thr Val Trp Asp Val Ala Thr Arg Val Val Ser Glu Tyr Gly Arg  
 290 295 300  
 Gly Glu Leu Arg Asp Leu Ser Thr Pro Asp Ala Leu His Glu Ala Arg  
 305 310 315 320  
 Leu Leu Met Leu Asp Ile Ser Lys Ala Arg Phe Cys Leu Gly Trp Glu  
 325 330 335  
 Pro Arg Met Asn Ile Gly Gln Thr Val Gly Leu Thr Val Asp Trp Tyr  
 340 345 350  
 Lys Arg Tyr Arg Glu Glu Glu Val Tyr Asp Val Cys Val Asp Gln Ile  
 355 360 365  
 Lys Asp Tyr Leu Leu Lys  
 370

<210> 5770  
 <211> 61  
 <212> PRT  
 <213> B.fragilis

<400> 5770  
 Leu Met Met Ser Val Ile Trp Leu Phe Asn Ser Pro Glu Glu Ser Asp  
 1 5 10 15  
 Cys Ser Leu Gly Val Ile Ile Gly Ile Leu Leu Ser Gln Ala Leu Ser  
 20 25 30  
 Ser Leu Pro Gln Asp Ile Lys Thr Lys Lys Asn Arg Leu Arg Lys Ser  
 35 40 45  
 Gly Thr Lys Tyr Phe Ile Met Phe Arg Leu Gly Tyr Lys  
 50 55 60

<210> 5771  
 <211> 477  
 <212> PRT  
 <213> B.fragilis

<400> 5771  
 Thr Lys Arg Ser Tyr Leu Leu Asn Gln Arg Thr Phe Gly Phe Lys Pro  
 1 5 10 15  
 Lys Lys Ser Ser Phe Ala Thr Gln Lys Leu Met Pro Met Leu Leu Ile  
 20 25 30  
 Ile Asp Asp Asp Ser Gly Val Arg Ser Ser Leu Ser Phe Met Leu Lys  
 35 40 45  
 Arg Ala Gly Tyr Gln Val Ile Ala Val Thr Gly Pro Arg Glu Ala Met  
 50 55 60  
 Glu Val Val Arg Ser Glu Ala Pro Ser Leu Ile Leu Met Asp Met Asn  
 65 70 75 80  
 Phe Thr Leu Ser Thr Ser Gly Glu Glu Gly Leu Thr Leu Leu Lys Gln  
 85 90 95  
 Val Lys Val Phe Arg Pro Asp Val Pro Val Ile Leu Met Thr Ala Trp  
 100 105 110  
 Gly Ser Ile Gln Leu Ala Val Gln Gly Met Gln Ala Gly Ala Phe Asp  
 115 120 125  
 Phe Ile Thr Lys Pro Trp Asn Asn Ala Ala Leu Leu Gln Arg Ile Glu  
 130 135 140  
 Thr Ala Leu Glu Leu Thr Ala Thr Pro Lys Asp Thr Pro Gln Glu Gln  
 145 150 155 160  
 Ser Gly Thr Leu Asn Arg Ser His Ile Ile Gly Lys Ser Arg Gly Leu  
 165 170 175  
 Met Glu Val Leu Asn Thr Val Ala Arg Ile Ala Pro Thr Asn Ala Pro  
 180 185 190  
 Val Leu Ile Thr Gly Glu Ser Gly Thr Gly Lys Glu Leu Ile Ala Glu

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      195              200              205
Ala Ile His Ile Asn Ser Gln Arg Val Arg Gln Pro Phe Val Lys Val
  210              215              220
Asn Leu Gly Gly Ile Ser Gln Ser Leu Phe Glu Ser Glu Met Phe Gly
  225              230              235              240
His Lys Lys Gly Ala Phe Thr Asp Ala Thr Ala Asp Arg Met Gly Arg
      245              250              255
Phe Glu Met Ala Asn Lys Gly Thr Ile Phe Leu Asp Glu Ile Gly Asp
      260              265              270
Leu Asp Pro Ser Cys Gln Val Lys Leu Leu Arg Val Leu Gln Asp Gln
      275              280              285
Thr Phe Glu Val Leu Gly Asp Ser Arg Pro Arg Lys Thr Asp Ile Arg
      290              295              300
Val Val Ser Ala Thr Asn Ala Asp Leu Ser Lys Met Val Ser Glu His
  305              310              315              320
Thr Phe Arg Glu Asp Leu Phe Tyr Arg Ile Asn Leu Ile Thr Val Lys
      325              330              335
Leu Pro Ala Leu Arg Glu Arg Arg Glu Asp Ile Pro Leu Leu Ala Arg
      340              345              350
His Phe Ala Asp Arg Gln Ala Glu Ile Asn Asn Leu Pro Arg Thr Glu
      355              360              365
Phe Ser Ser Asp Ala Leu Asn Phe Leu Ser Arg Leu Pro Phe Pro Gly
      370              375              380
Asn Ile Arg Glu Leu Lys Asn Leu Val Glu Arg Thr Ile Leu Val Ser
  385              390              395              400
Gly Lys Glu Val Leu Asp Ala Ile Asp Phe Glu Asn Gln Tyr Gln Arg
      405              410              415
His Asp Glu Ser Val Ala Thr Ser Ser Ser Phe Ala Gly Met Thr Leu
      420              425              430
Asp Glu Ile Glu Lys Gln Thr Ile Leu Gln Ala Leu Glu Arg Tyr Lys
      435              440              445
Gly Asn Leu Ser Gln Val Ala Thr Ala Leu Gly Ile Ser Arg Ala Ala
      450              455              460
Leu Tyr Arg Arg Leu Glu Lys Tyr Asp Ile Gly Asp Lys
  465              470              475

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&lt;210&gt; 5772

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5772

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Cys Ala Asp Pro Ser Gln Pro Leu Val Lys Thr Tyr Pro Thr Phe Asp
  1              5              10              15
Thr Met Leu Gln Gln Leu Lys Asp Asn Lys Thr Lys Gln Val Thr Leu
      20              25              30
Val Pro Phe Met Phe Val Ala Gly Asp His Ala Asn Asn Asp Ile Ala
      35              40              45
Val Asp Trp Lys Glu Ala Leu Glu Lys Glu Gly Leu Lys Val Asp Val
      50              55              60
Arg Met Gln Gly Leu Gly Glu Ile Pro Ala Ile Gln Gln Leu Phe Ile
  65              70              75              80
Asp His Ala Gln Phe Met Leu Lys His Glu Met Val Asp Ile Met Lys
      85              90              95
Lys Lys Ala Lys Tyr Ala Lys Asp Lys Asp Glu
      100              105

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&lt;210&gt; 5773

&lt;211&gt; 500

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5773

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Leu His Ala Phe Arg Ile Leu Tyr Phe Ile Met Met Ile Thr Lys Phe
1      5      10      15
Met Tyr Thr Ile His Arg Val Leu Gly Thr Leu Leu Ser Ile Leu Phe
      20      25      30
Leu Val Trp Phe Leu Ser Ala Phe Val Met Met Tyr His Gly Phe Pro
      35      40      45
Arg Ala Ser Gln Ala Glu Lys Leu Glu Lys Leu Glu Pro Leu Ser Pro
      50      55      60
Ser Leu Pro Ser Val Ser Glu Ile Thr Ser Arg Leu Pro Glu Gly Glu
      65      70      75      80
Lys Val Lys Gly Ile Arg Leu Asp Arg Tyr Leu Gly Gln Thr Ile Phe
      85      90      95
His Ile Arg Thr Asp Lys Gly Glu His Asn Leu Pro Ala Asp Ser Val
      100     105     110
Gln Ala Leu Pro Val Ile Asp Gly Ser Arg Ile His Arg Val Ala Ser
      115     120     125
Leu Trp Cys Asn Ala Pro Ile Asp Arg Ile Asp Thr Leu Asn Arg Leu
      130     135     140
Asp Gln Trp Ile Pro Phe Gly Gly Leu Lys Arg Glu Phe Pro Ile Tyr
      145     150     155     160
Lys Phe His Phe Ala Asp Thr Glu Lys His Gln Leu Tyr Ile Gly Ser
      165     170     175
Gln Ser Gly Glu Val Leu Gln Phe Thr Thr Arg Asn Glu Arg Phe Trp
      180     185     190
Ala Trp Leu Gly Ala Ile Pro His Trp Val Tyr Phe Thr Trp Leu Arg
      195     200     205
Gln Asp Ala Ala Leu Trp Ser Ile Thr Val Ile Trp Leu Ser Gly Ile
      210     215     220
Gly Cys Leu Met Thr Ile Ala Gly Leu Trp Val Gly Met Asp Val Trp
      225     230     235     240
Arg Arg Ser Arg Lys Gln Lys Gly Lys Phe Ser Pro Tyr Arg Lys Lys
      245     250     255
Trp Tyr His Trp His Tyr Val Thr Gly Ile Val Phe Gly Leu Phe Val
      260     265     270
Leu Thr Phe Cys Phe Ser Gly Met Ser Leu Ala Glu Val Pro Ala
      275     280     285
Trp Ile Ser Lys Pro Val Leu Asp Arg Asn Pro Thr Arg Glu Ile Lys
      290     295     300
Lys Gly Ala Pro Lys Pro Val Gln Tyr Leu Leu Asp Tyr Arg Gln Ile
      305     310     315     320
Leu Thr Glu Tyr Pro Asp Val Arg Gln Val Glu Trp Ser Asn Phe Arg
      325     330     335
Ser Lys Pro Tyr Tyr Ile Val Lys Arg Ser Glu Gly Asp Leu Tyr Ile
      340     345     350
Asp Ala Ser Asp Ser Leu Pro His Pro Leu Asn Leu Asp Lys Lys Gln
      355     360     365
Val Thr Asp Ala Val Arg Thr Ile His Gly Asp Ser Ile His Leu Lys
      370     375     380
Val Glu Leu Ile Asp Lys Phe Glu Thr Tyr Tyr Arg Asp Met Ser Arg
      385     390     395     400
Met Tyr Arg Asp Arg Ser Leu Leu Pro Val Trp Lys Ile Thr Val Asp
      405     410     415
Asp Pro Asp His Ser Cys Tyr Tyr Ile His Pro Glu Thr Ala Thr Val
      420     425     430
Arg Tyr Val Asn Ser Thr Ala Arg Trp Lys Tyr Trp Met Tyr Thr Ala

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435 440 445  
 Leu His Arg Leu Arg Ile Gln Gly Leu Asn Ser Ser Pro Thr Leu Arg  
 450 455 460  
 Lys Ser Val Leu Trp Val Leu Leu Gly Gly Thr Val Cys Ser Leu  
 465 470 475 480  
 Ser Gly Val Val Leu Gly Val Arg Tyr Ile Glu Arg Lys Cys Arg Lys  
 485 490 495  
 Lys Thr Arg Arg  
 500

<210> 5774  
 <211> 172  
 <212> PRT  
 <213> B.fragilis

<400> 5774  
 Leu Asn Thr Thr Gln Thr Met Asn Lys Lys Leu Leu Lys Gln Ile Val  
 1 5 10 15  
 Asn Glu Arg Arg Ser Asn Ser Trp Leu Phe Ile Glu Leu Leu Val  
 20 25 30  
 Ser Ile Val Leu Trp Tyr Val Val Asp Tyr Met Phe Val Thr Leu Tyr  
 35 40 45  
 Thr Tyr Phe Glu Pro Arg Gly Phe Asp Ile Glu Asn Thr Tyr Arg Val  
 50 55 60  
 Glu Phe Asp Tyr Leu Ile Glu Lys Ser Pro Asp Tyr Ile Ala Asn Arg  
 65 70 75 80  
 Thr Asp Glu Glu Ala His Ala Asp Met Arg Glu Leu Leu Asp Arg Leu  
 85 90 95  
 Arg Arg Arg Pro Gly Val Glu Ala Val Ser Met Ser Gln Asn Ser Phe  
 100 105 110  
 Pro Tyr Asn Gly Ser Asn Ser Gly Met Asp Val Arg Leu Asp Thr Met  
 115 120 125  
 Glu Ser Lys Tyr Asn Ile Arg Arg Trp Val Thr Pro Asp Phe Phe Arg  
 130 135 140  
 Val Phe Arg Tyr Gln Gly Ala Asn Arg Arg Asn Ser Gly Thr Ile Ser  
 145 150 155 160  
 Cys Ser Val Glu Gly Tyr Phe Tyr Gly Ile Ala  
 165 170

<210> 5775  
 <211> 347  
 <212> PRT  
 <213> B.fragilis

<400> 5775  
 Lys Val Tyr Thr Leu Leu Cys Lys Arg Arg Leu Leu Ile Phe Gly Val  
 1 5 10 15  
 Asn Leu Asn Lys Met Lys Val Tyr Ile Lys Asn Ile Ser Arg Lys Lys  
 20 25 30  
 Gly Glu Phe Gln Phe Tyr Met His Gln Phe Val Glu Ala Cys Ile Arg  
 35 40 45  
 Gln Asn Ile Pro Phe Val Asn Glu Leu His Val Cys Val Arg Leu Lys  
 50 55 60  
 Leu Ser Ala Val Met Ile Lys Leu Gly His Trp Ile Asn Phe Phe Phe  
 65 70 75 80  
 Cys Arg Cys Asn Asn Lys Ala Ile Ile Val Ser Thr Trp Gly Gly Gly  
 85 90 95  
 Leu Met Tyr Thr Ser Phe Pro Tyr Ser Leu Leu Tyr Glu Ile Ile Pro  
 100 105 110



Val Phe Trp Asp Ser Trp Pro Phe Asn Trp Glu Glu Gln Ile Tyr Ser  
 115 120 125  
 Leu Arg Arg Leu Asn Cys Arg Thr Cys Phe Val Thr Ser Ser Gln Val  
 130 135 140  
 Ala Gln Arg Ile Lys Glu Thr Leu Pro Asn Ile Asn Val His Trp Leu  
 145 150 155 160  
 Pro Glu Gly Ile Asp Ile Leu Asp Tyr Val Pro Gly Gln Asp Leu Thr  
 165 170 175  
 Glu Arg Ser Ile Glu Ile Tyr Glu Leu Gly Arg Gln Lys Ala Asp Tyr  
 180 185 190  
 His Lys Ile Leu Cys Asp Leu Lys Ser Glu Gly Ile Phe Ser Ser Phe  
 195 200 205  
 Leu Cys Asn Glu Tyr Asp Ile Asn Gly Met Thr Thr Lys Leu Ala Phe  
 210 215 220  
 Pro Thr Ala Lys Ala Leu Leu Lys Ala Leu Pro Asn Ile Lys Ile Val  
 225 230 235 240  
 Ile Ser Phe Pro Gln Val Asp Thr His Pro Glu Lys Val Gly Asn Ile  
 245 250 255  
 Glu Thr Leu Thr Gln Arg Tyr Trp Glu Ala Met Leu Ser Arg Asn Leu  
 260 265 270  
 Ile Val Gly Arg Ala Pro Asn Glu Ile Gln Leu Ile Gly Tyr Asn  
 275 280 285  
 Pro Val Ile Asp Val Asp Trp Glu Asp Pro Lys Lys Gln Leu Ser Asp  
 290 295 300  
 Ile Leu Leu Asn Ile Ser Ser Phe Gln Lys Leu Val Asp Arg Asn Tyr  
 305 310 315 320  
 Arg Thr Ala Arg Lys Ile Ser Ser Trp Asp Asn Arg Val Lys Asp Ile  
 325 330 335  
 Ile Thr Ile Leu Arg Thr Ser Gly Tyr Glu Ile  
 340 345

&lt;210&gt; 5776

&lt;211&gt; 386

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5776

Arg Arg Leu Thr Arg Arg Ile Lys Arg Lys Asn Lys Met Phe Ser Asp  
 1 5 10 15  
 Glu Leu Glu Lys Ile Ser Trp Glu Glu Thr Thr Lys Ala Ile Tyr Ser  
 20 25 30  
 Lys Thr Asp Ala Asp Val Arg Arg Ala Leu Ser Lys Glu His Cys Asp  
 35 40 45  
 Val Asn Asp Phe Met Ala Leu Ile Ser Pro Ala Ala Ala Pro Tyr Leu  
 50 55 60  
 Glu Thr Met Ala Arg Leu Ser Arg Lys Tyr Thr Met Glu Arg Phe Gly  
 65 70 75 80  
 Lys Thr Ile Ser Met Phe Val Pro Leu Tyr Ile Thr Asn Ser Cys Thr  
 85 90 95  
 Asn Ser Cys Val Tyr Cys Gly Phe Asn His Asn Asn Pro Met Lys Arg  
 100 105 110  
 Thr Ile Leu Thr Glu Glu Glu Met Val Asn Glu Tyr Lys Ala Ile Lys  
 115 120 125  
 Lys Leu Ala Pro Phe Glu Asn Leu Leu Leu Val Thr Gly Glu Asn Pro  
 130 135 140  
 Ala Lys Ala Gly Val Asp Tyr Ile Glu Arg Ala Leu Leu Leu Ala Lys  
 145 150 155 160  
 Pro Tyr Phe Ala Asn Leu Gln Ile Glu Val Met Pro Leu Lys Ala Glu  
 165 170 175

Glu Tyr Glu Arg Leu Thr His Ala Gly Leu Asn Gly Val Ile Cys Phe  
 180 185 190  
 Gln Glu Thr Tyr Asn Lys Ala Asn Tyr Asn Ile Tyr His Pro Arg Gly  
 195 200 205  
 Met Lys Ser Lys Phe Glu Trp Arg Val Asn Gly Phe Asp Arg Met Gly  
 210 215 220  
 Gln Ala Gly Val His Lys Ile Gly Met Gly Val Leu Ile Gly Leu Glu  
 225 230 235 240  
 Glu Trp Arg Thr Asp Ile Thr Met Met Ala Tyr His Leu Arg Tyr Leu  
 245 250 255  
 Gln Lys His Tyr Trp Lys Thr Lys Tyr Ser Val Asn Phe Pro Arg Met  
 260 265 270  
 Arg Pro Ser Glu Asn Gly Gly Phe Gln Pro Asn Val Val Met Asn Asp  
 275 280 285  
 Arg Glu Leu Ala Gln Val Thr Phe Ala Met Arg Ile Phe Asp His Asp  
 290 295 300  
 Val Asp Ile Ser Tyr Ser Thr Arg Glu Ser Ala Ala Phe Arg Asn His  
 305 310 315 320  
 Met Ala Thr Leu Gly Val Thr Thr Met Ser Ala Glu Ser Lys Thr Glu  
 325 330 335  
 Pro Gly Gly Tyr Phe Thr Tyr Pro Gln Ala Leu Glu Gln Phe His Val  
 340 345 350  
 Ser Asp Glu Arg Lys Ala Val Glu Val Asp Ala Ala Leu Arg Ser Leu  
 355 360 365  
 Gly Arg Ile Pro Val Tyr Lys Asp Trp Asp Thr Ala Leu Thr Leu Pro  
 370 375 380  
 Gln Cys  
 385

&lt;210&gt; 5777

&lt;211&gt; 555

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5777

Leu Asn Ile Thr Leu Asp Ile Met Met Lys Ser Asn Glu Asn Asn Gly  
 1 5 10 15  
 Ala Val Thr Lys Ser Phe Ala Lys Lys Met Glu Ser Ile Ser Pro Phe  
 20 25 30  
 Glu Leu Lys Asn Lys Leu Ile Glu Met Ala Asp Glu Ser Ile Lys Lys  
 35 40 45  
 Ile Ala His Thr Met Leu Asn Ala Gly Arg Gly Asn Pro Asn Trp Ile  
 50 55 60  
 Ala Thr Thr Pro Arg Glu Ala Phe Phe Leu Leu Gly Lys Phe Gly Leu  
 65 70 75 80  
 Glu Glu Cys Arg Arg Val Met Tyr Leu Pro Glu Gly Ile Ala Gly Ile  
 85 90 95  
 Pro Gln Lys Asp Gly Ile Ala Ala Arg Phe Glu Thr Phe Leu Lys Thr  
 100 105 110  
 Asn His Ser Gln Pro Gly Ala Glu Leu Leu Lys Gly Thr Tyr Gln Tyr  
 115 120 125  
 Met Leu Leu Glu His Ala Ala Asp Pro Asp Thr Leu Val His Glu Trp  
 130 135 140  
 Ala Glu Gly Val Val Gly Asp Gln Tyr Pro Val Pro Asp Arg Ile Leu  
 145 150 155 160  
 Gln Phe Thr Glu Met Ile Val Gln Asp Tyr Leu Ala Gln Glu Met Cys  
 165 170 175  
 Asp Arg Arg Pro Pro Lys Gly Lys Tyr Asp Leu Phe Ala Thr Glu Gly  
 180 185 190

Gly Thr Ala Ala Met Cys Tyr Val Phe Asp Ser Leu Gln Glu Asn Phe  
 195 200 205  
 Leu Leu Asn Lys Gly Asp Gly Ile Ala Leu Met Val Pro Val Phe Thr  
 210 215 220  
 Pro Tyr Ile Glu Ile Pro Gln Leu Arg Arg Tyr Glu Phe Asn Val Thr  
 225 230 235 240  
 Glu Ile Ser Ala Asp Gln Met Thr Thr Asp Gly Leu His Thr Trp Gln  
 245 250 255  
 Tyr Lys Asp Glu Asp Ile Asp Arg Leu Arg Asn Pro Gln Ile Lys Ala  
 260 265 270  
 Leu Phe Ile Thr Asn Pro Ser Asn Pro Pro Ser Tyr Thr Leu Asn Pro  
 275 280 285  
 Glu Thr Ala Ala Arg Ile Val Asp Ile Val Lys Lys Asp Asn Pro Asn  
 290 295 300  
 Leu Met Ile Ile Thr Asp Asp Val Tyr Gly Thr Phe Ser Pro His Phe  
 305 310 315 320  
 Arg Ser Leu Met Ala Glu Leu Pro Gln Asn Thr Leu Cys Val Tyr Ser  
 325 330 335  
 Phe Ser Lys Tyr Phe Gly Ala Thr Gly Trp Arg Asp Ala Val Ile Ala  
 340 345 350  
 Leu His Glu Glu Asn Ile Phe Asp Arg Met Ile Ala His Leu Pro Glu  
 355 360 365  
 Glu Gln Lys Thr Ile Leu Asn Lys Arg Tyr Ser Ser Leu Thr Leu Thr  
 370 375 380  
 Pro Glu Lys Leu Lys Phe Ile Asp Arg Met Val Ala Asp Ser Arg Gln  
 385 390 395 400  
 Val Ala Leu Asn His Thr Ala Gly Leu Ser Leu Pro Gln Gln Thr Gln  
 405 410 415  
 Met Ser Leu Phe Ala Ser Phe Ala Ile Leu Asp Lys Glu Asn Arg Tyr  
 420 425 430  
 Lys Asn Lys Met Gln Glu Ile Ile Arg Arg Arg Leu Lys Ala Leu Trp  
 435 440 445  
 Asp Asn Thr Gly Phe Ser Leu Val Asp Asp Pro Leu Arg Val Gly Tyr  
 450 455 460  
 Tyr Ser Glu Ile Asp Met Leu Val Trp Ala Lys Ile Phe Tyr Gly Glu  
 465 470 475 480  
 Glu Phe Val Ser Tyr Leu Lys Lys Thr Tyr Ser Pro Leu Asp Val Val  
 485 490 495  
 Phe Arg Leu Ala Asn Glu Thr Ser Leu Val Leu Leu Asn Gly Gly Gly  
 500 505 510  
 Phe Ala Gly Pro Glu Trp Ser Val Arg Val Ser Leu Ala Asn Leu Asn  
 515 520 525  
 Glu Lys Asp Tyr Val Lys Ile Gly Gln Gly Ile Lys Arg Ile Leu Asp  
 530 535 540  
 Glu Tyr Ala Val Lys Trp Gln Glu Ser Arg Lys  
 545 550 555

&lt;210&gt; 5778

&lt;211&gt; 595

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5778

Thr Asn Lys Thr Ile Thr Ser Pro Pro Ala Pro Leu Pro Ser Ile Thr  
 1 5 10 15  
 Leu Arg Glu Lys Asn Thr Gly Leu Arg Asp Pro Asn Asn Glu Cys Met  
 20 25 30  
 Glu Gln Arg Ile Lys Phe Pro Arg Ser Glu Lys Val Tyr Leu Ser Gly  
 35 40 45

Lys Leu Phe Pro Glu Ile Arg Val Gly Met Arg Lys Val Glu Gln Val  
 50 55 60  
 Pro Ser Thr Thr Phe Glu Gly Glu Lys Lys Val Ile Thr Pro Asn Pro  
 65 70 75 80  
 His Val Tyr Ile Tyr Asp Thr Ser Gly Pro Phe Ser Asp Pro Asp Ile  
 85 90 95  
 Glu Ile Asp Leu Lys Lys Gly Leu Pro Arg Leu Arg Glu Glu Trp Ile  
 100 105 110  
 Leu Asn Arg Gly Asp Val Glu Gln Leu Pro Glu Ile Ser Ser Glu Tyr  
 115 120 125  
 Gly Arg Met Arg Arg Asp Asp Gly Ser Leu Asp His Leu Arg Phe Glu  
 130 135 140  
 His Ile Ala Leu Pro Tyr Arg Ala Lys Ala Gly Arg His Ile Thr Gln  
 145 150 155 160  
 Met Ala Tyr Ala Lys Gln Gly Ile Val Thr Pro Glu Met Glu Tyr Val  
 165 170 175  
 Ala Ile Arg Glu Asn Met Asn Cys Glu Glu Leu Gly Ile Glu Thr His  
 180 185 190  
 Ile Thr Pro Glu Phe Val Arg Gln Glu Ile Ala Glu Gly Arg Ala Val  
 195 200 205  
 Leu Pro Ala Asn Ile Asn His Pro Glu Ala Glu Pro Met Ile Ile Gly  
 210 215 220  
 Arg Asn Phe Leu Val Lys Ile Asn Thr Asn Ile Gly Asn Ser Ala Thr  
 225 230 235 240  
 Thr Ser Ser Ile Asp Glu Glu Val Glu Lys Ala Met Trp Ser Cys Lys  
 245 250 255  
 Trp Gly Gly Asp Thr Leu Met Asp Leu Ser Thr Gly Glu Asn Ile His  
 260 265 270  
 Glu Thr Arg Glu Trp Ile Ile Arg Asn Cys Pro Val Pro Val Gly Thr  
 275 280 285  
 Val Pro Ile Tyr Gln Ala Leu Glu Lys Val Asn Gly Lys Val Glu Asp  
 290 295 300  
 Leu Thr Trp Glu Leu Tyr Arg Asp Thr Leu Ile Glu Gln Cys Glu Gln  
 305 310 315 320  
 Gly Val Asp Tyr Phe Thr Ile His Ala Gly Ile Arg Arg His Asn Val  
 325 330 335  
 His Leu Ala Glu Lys Arg Leu Cys Gly Ile Val Ser Arg Gly Gly Ser  
 340 345 350  
 Ile Met Ser Lys Trp Cys Leu Val His Asp Arg Glu Ser Phe Leu Tyr  
 355 360 365  
 Glu His Phe Asp Asp Ile Cys Asp Ile Leu Ala Gln Tyr Asp Val Ala  
 370 375 380  
 Val Ser Leu Gly Asp Gly Leu Arg Pro Gly Ser Thr His Asp Ala Asn  
 385 390 395 400  
 Asp Glu Ala Gln Phe Ala Glu Leu Asp Thr Met Gly Glu Leu Val Val  
 405 410 415  
 Arg Ala Trp Glu Lys Asn Val Gln Ala Phe Ile Glu Gly Pro Gly His  
 420 425 430  
 Val Pro Met His Lys Ile Arg Glu Asn Met Glu Arg Gln Ile Glu Lys  
 435 440 445  
 Cys His Asn Ala Pro Phe Tyr Thr Leu Gly Pro Leu Val Thr Asp Ile  
 450 455 460  
 Ala Pro Gly Tyr Asp His Ile Thr Ser Ala Ile Gly Ala Ala Gln Ile  
 465 470 475 480  
 Gly Trp Leu Gly Thr Ala Met Leu Cys Tyr Val Thr Pro Lys Glu His  
 485 490 495  
 Leu Ala Leu Pro Asp Lys Glu Asp Val Arg Val Gly Val Ile Thr Tyr  
 500 505 510  
 Lys Ile Ala Ala His Ala Ala Asp Leu Ala Lys Gly His Pro Gly Ala

515		520		525
Gln Val Arg Asp Asn Ala Leu Ser Lys Ala Arg Tyr Glu Phe Arg Trp				
530		535		540
Lys Asp Gln Phe Asp Leu Ser Leu Asp Pro Glu Arg Ala Phe Ser Tyr				
545		550		555
Phe His Ala Gly Arg His Thr Asp Gly Glu Tyr Cys Thr Met Cys Gly				
		565		570
Pro Asn Phe Cys Ala Met Arg Leu Ser Arg Asp Leu Lys Lys Thr Gln				
		580		585
Lys Gln Lys				590
595				

<210> 5779  
 <211> 257  
 <212> PRT  
 <213> B.fragilis

<400> 5779

Pro Ile Lys Thr Lys Lys His Thr Ala Met Glu Ile Thr Leu Lys Asn	
1	5
Gln Phe Ile Thr Leu Trp Asn Thr Tyr Phe Pro Gln Ala Gly Leu Pro	
	20
Ile Thr Phe Gln Tyr Ser Ala Asp Thr Gln Asn Leu Pro Ile Val Glu	
	35
Ala Pro Lys Gly His Arg Cys Ile Ile Ala Gln Leu Thr Gln Val Gln	
	50
Arg Gly Lys Thr Leu Cys Met Gln Ala Asp Ser Val Gly Cys Arg Gly	
65	70
Gly Lys Arg Tyr Thr Asn Phe Thr Asp Lys Met Phe Pro Gly Phe Glu	
	85
Cys Phe Leu Ser His Asn Glu Gln Gly Glu Gly Glu Arg Tyr Lys Gln	
	100
Thr Pro Glu Leu Ala Ala Ala Ala Leu Ala Gln Leu Pro Ala Leu Pro	
	115
Val Lys Gly Glu Asn Leu Ile Phe Lys Arg Trp Asp Lys Leu Glu Ala	
	130
Glu Asp Met Pro Glu Val Val Ile Phe Phe Val Ser Ala Asp Ile Leu	
145	150
Ser Gly Leu Phe Thr Leu Ala Cys Phe Asp Asn Val Ala Pro Asp Ala	
	165
Val Ile Ala Pro Phe Gly Ala Gly Cys Ala Ser Ile Ile Tyr His Pro	
	180
Tyr Arg Glu Gln Leu Asp Arg Thr Asn Arg Ala Val Leu Gly Ser Phe	
	195
Asp Pro Ser Ala Arg Lys Cys Met Lys Pro Asp Leu Leu Ser Phe Ala	
	210
Ile Pro Phe Asn Lys Phe Lys Ser Met Val Ser Gln Met Glu Glu Ser	
225	230
Phe Leu Lys Thr Ala Thr Trp Asp Val Ile Lys Lys Arg Ile Gly Ser	
	245
Ser	250

<210> 5780  
 <211> 155  
 <212> PRT  
 <213> B.fragilis

<400> 5780

Gln Ala Arg Thr Leu Phe Gly Ser Leu Leu Thr Thr Ile Phe Ala Gln  
 1 5 10 15  
 Tyr Ser His Ile Lys Lys Ile Lys Gln Met Lys Lys Ile Ile Leu Gly  
 20 25 30  
 Ala Cys Ala Val Leu Phe Thr Leu Ala Ser Cys Gln Gln Ala Lys Gln  
 35 40 45  
 Lys Val Phe Glu Leu Ala Ala Glu Gln Val Asn Lys Gln Cys Pro Ile  
 50 55 60  
 Thr Val Asp Glu Met Thr Arg Met Asp Ser Thr Thr Tyr Ser Gly Lys  
 65 70 75 80  
 Asp Asn Thr Phe Thr Tyr Phe Tyr Thr Leu Ser Gly Gln Ala Asp Asp  
 85 90 95  
 Pro Thr Met Ser Glu Gln Leu Lys Lys Ser Leu Glu Glu Thr Leu Pro  
 100 105 110  
 Glu Thr Ile Lys Asn Thr Glu Glu Met Lys Val Tyr Arg Glu Ser Asp  
 115 120 125  
 Val Thr Ile Lys Tyr Ile Tyr Leu Ser Gly Lys Thr Lys Glu Glu Leu  
 130 135 140  
 Ile Gln Val Thr Val Thr Pro Asp Met Tyr Lys  
 145 150 155

<210> 5781

<211> 408

<212> PRT

<213> B.fragilis

<400> 5781

Met Glu Leu Thr Leu Leu Leu Ile Ile Ala Ala Leu Leu Val Ala Leu  
 1 5 10 15  
 Leu Val Leu Thr Leu Thr Arg Asn Asn Arg Ala Gln Ser Glu Glu Met  
 20 25 30  
 Gln Arg Ala Leu Arg Gln Gln Met Gln Glu Asn Arg Glu Glu Leu Asn  
 35 40 45  
 Arg Ser Ile Arg Glu Leu Arg Met Glu Met Thr Gln Thr Leu Asn Gln  
 50 55 60  
 Gly Leu Gln Gln Leu Gln Asp Ala Met His Lys Asn Met Met Thr Thr  
 65 70 75 80  
 Gly Glu Leu Gln Arg Gln Lys Phe Asp Ala Met Ala Arg Gln Gln Glu  
 85 90 95  
 Thr Leu Ile Gln Ser Thr Glu Lys Arg Leu Asp Asp Met Arg Val Met  
 100 105 110  
 Val Glu Glu Lys Leu Gln Lys Thr Leu Asn Glu Arg Ile Gly Gln Ser  
 115 120 125  
 Phe Glu Ile Val Arg Ser Gln Leu Glu Asn Val Gln Lys Gly Leu Gly  
 130 135 140  
 Glu Met Lys Ser Leu Ala Gln Asp Val Gly Gly Leu Lys Lys Val Leu  
 145 150 155 160  
 Ser Asn Val Lys Met Arg Gly Thr Phe Gly Glu Val Gln Leu Gly Ala  
 165 170 175  
 Leu Leu Glu Gln Met Met Ser Pro Glu Gln Tyr Glu Ala Asn Val Lys  
 180 185 190  
 Thr Lys Lys Ser Gly Thr Glu Phe Val Glu Phe Ala Ile Lys Leu Pro  
 195 200 205  
 Gly Lys Asp Asp Ala Asn Ser Thr Val Tyr Leu Pro Ile Asp Ala Lys  
 210 215 220  
 Phe Pro Lys Asp Val Tyr Glu Gln Tyr Tyr Asp Ala Phe Glu Ala Gly  
 225 230 235 240  
 Asp Ala Ala Leu Met Glu Ser Cys Gly Arg Gln Leu Glu Thr Thr Ile  
 245 250 255

Lys Lys Met Ala Lys Asp Ile His Asp Lys Tyr Val Asp Pro Pro Phe  
 260 265 270  
 Thr Thr Asp Phe Ala Ile Leu Phe Leu Pro Phe Glu Ser Ile Tyr Ala  
 275 280 285  
 Glu Val Ile Arg Arg Thr Ser Leu Val Glu Thr Leu Gln Lys Asp Tyr  
 290 295 300  
 Lys Ile Val Val Thr Gly Pro Thr Thr Leu Gly Ala Ile Leu Asn Ser  
 305 310 315 320  
 Leu Gln Met Gly Phe Arg Thr Leu Ala Ile Gln Lys Arg Thr Gly Glu  
 325 330 335  
 Val Trp Thr Val Leu Gly Ala Val Lys Thr Glu Phe Gly Lys Phe Gly  
 340 345 350  
 Gly Leu Leu Glu Lys Val Gln Lys Asn Leu Gln Ser Ala Gly Asp Gln  
 355 360 365  
 Leu Glu Glu Val Met Gly Lys Arg Thr Arg Ala Ile Glu Arg Lys Leu  
 370 375 380  
 Arg Gln Val Glu Glu Leu Pro His Glu Glu Ser Arg Arg Ile Leu Pro  
 385 390 395 400  
 Ile Asp Asp Gly Gly Glu Asp Asp  
 405

&lt;210&gt; 5782

&lt;211&gt; 140

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5782

Cys Asn Val Ala Lys Asn Ala Met Ile Leu Gly Ala Lys Arg Leu Val  
 1 5 10 15  
 Val Thr Ile Tyr Ile Gln Tyr His Leu Cys Leu Lys Tyr Glu Phe Ala  
 20 25 30  
 Leu Val Arg Val Lys Glu Leu Leu Pro Leu Val Asp Asp Asn Ile Pro  
 35 40 45  
 Ala Asn Asp Lys Asp Ala Val Glu Leu Ser Val Met Ser Asp Ile Val  
 50 55 60  
 Ile Ala Tyr Gly Lys Glu His Tyr Pro Ile Glu Lys Pro Thr Val Ala  
 65 70 75 80  
 Glu Leu Ile Glu Leu Tyr Leu Glu Glu Lys Gly Met Ser Gln Lys Gln  
 85 90 95  
 Leu Ala Ile Glu Ile Gly Ile Ser Leu Ser Arg Val Asn Asp Tyr Ile  
 100 105 110  
 Ala Gly Arg Ser Glu Pro Thr Leu Lys Ile Ala Arg Leu Leu Cys Arg  
 115 120 125  
 Ile Leu Asn Ile Pro Pro Val Ala Met Leu Gly Phe  
 130 135 140

&lt;210&gt; 5783

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5783

Gly Lys Tyr Phe Lys Pro Met Gly Arg Ala Phe Glu Tyr Arg Lys Ala  
 1 5 10 15  
 Thr Lys Leu Lys Arg Trp Gly Asn Met Ala Arg Thr Phe Thr Arg Ile  
 20 25 30  
 Gly Lys Gln Ile Ala Ile Ala Val Lys Ala Gly Gly Pro Asp Pro Glu  
 35 40 45  
 Asn Asn Pro His Leu Arg Ala Val Val Ala Thr Ala Lys Arg Glu Asn

50	55	60
Met Pro Lys Asp Asn Val Glu Arg Ala Ile Lys Asn Ala Met Gly Lys		
65	70	75
Asp Gln Lys Asp Tyr Lys Glu Met Asn Tyr Glu Gly Tyr Gly Pro Phe		80
	85	90
Gly Ile Ala Val Phe Val Glu Thr Ala Thr Asp Asn Thr Thr Arg Thr		95
	100	105
Val Ala Asn Val Arg Ser Val Phe Asn Lys Phe Gly Gly Thr Leu Gly		110
	115	120
Thr Ser Gly Ser Leu Asp Phe Met Phe Ser Trp Lys Ser Met Phe Thr		125
	130	135
Ile Thr Lys Lys Glu Gly Val Asp Met Asp Asp Leu Ile Leu Glu Leu		140
145	150	155
Ile Asp Tyr Gly Val Glu Glu Glu Tyr Asp Glu Asp Glu Asp Glu Ile		160
	165	170
Thr Leu Tyr Gly Asp Pro Lys Ser Phe Ala Gln Ile Gln Lys Tyr Leu		175
	180	185
Glu Glu Asn Gly Phe Glu Val Lys Gly Ala Glu Phe Thr Arg Ile Pro		190
	195	200
Asn Asp Glu Lys Asp Leu Thr Pro Glu Gln Arg Ala Thr Ile Asp Lys		205
210	215	220
Met Val Glu Arg Leu Glu Asp Glu Asp Val Gln Asn Val Tyr Thr		225
225	230	235
Asn Met Lys Pro Ala Asp Asn Glu Gly Glu Glu		240
	245	250

&lt;210&gt; 5784

&lt;211&gt; 790

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5784

Gln Ile Asn Phe Met Pro Asp Tyr Ile Glu Glu Leu Asn Glu Ser Gln		
1	5	10
Arg Ala Ala Val Leu Tyr Gly Asp Gly Pro Ser Leu Val Ile Ala Gly		15
	20	25
Ala Gly Ser Gly Lys Thr Arg Val Leu Thr Tyr Lys Ile Ala Tyr Leu		30
	35	40
Leu Glu Asn Gly Tyr Asn Pro Trp Asn Ile Leu Ala Leu Thr Phe Thr		45
	50	55
Asn Lys Ala Ala Arg Glu Met Lys Glu Arg Ile Ala Arg Gln Val Gly		60
65	70	75
Glu Gln Arg Ala Arg Phe Leu Trp Met Gly Thr Phe His Ser Val Phe		80
	85	90
Ser Arg Ile Leu Arg Ala Glu Ala Ser His Ile Gly Phe Thr Ser Gln		95
	100	105
Phe Thr Ile Tyr Asp Ser Ala Asp Ser Lys Ser Leu Ile Arg Ser Ile		110
	115	120
Ile Lys Glu Met Gly Leu Asp Glu Lys Thr Tyr Lys Pro Gly Ser Val		125
	130	135
Gln Ala Arg Ile Ser Asn Ala Lys Asn His Leu Val Ser Pro Ser Gly		140
145	150	155
Tyr Ala Ala Asn Lys Glu Ala Tyr Glu Gly Asp Leu Ala Ala Lys Met		160
	165	170
Pro Ala Ile Arg Asp Ile Tyr Ser Arg Tyr Trp Glu Arg Cys Arg Gln		175
	180	185
Ala Gly Ala Met Asp Phe Asp Asp Leu Leu Val Tyr Thr Tyr Ile Leu		190
	195	200
Phe Arg Asp Phe Pro Asp Val Leu Ala Arg Tyr Arg Glu Gln Phe Arg		205



210					215					220					
Tyr 225	Val	Leu	Val	Asp	Glu 230	Tyr	Gln	Asp	Thr	Asn 235	Tyr	Ala	Gln	His	Ser 240
Ile	Val	Leu	Gln	Leu 245	Thr	Lys	Glu	Asn	Gln	Arg 250	Val	Cys	Val	Val	Gly 255
Asp	Asp	Ala	Gln	Ser 260	Ile	Tyr	Ser	Phe	Arg	Gly 265	Ala	Asp	Ile	Asp	Asn 270
Ile	Leu	Tyr	Phe	Thr 275	Lys	Ile	Tyr	Pro	Asp	Thr 280	Lys	Val	Phe	Lys	Leu 285
Glu	Gln	Asn	Tyr	Arg 290	Ser	Thr	Gln	Thr	Ile	Val 300	Arg	Ala	Ala	Asn	Ser 305
Leu 305	Ile	Glu	Lys	Asn 310	Glu	Arg	Gln	Ile	Pro	Lys 315	Glu	Val	Phe	Ser	Glu 320
Lys	Glu	Arg	Gly	Glu 325	Ala	Ile	Gly	Val	Phe	Gln 330	Ala	Tyr	Ser	Asp	Val 335
Glu	Glu	Gly	Asp	Ile 340	Val	Thr	Asn	Lys	Ile	Ala 345	Gln	Leu	Arg	Arg	Glu 350
His	Asp	Tyr	Glu	Tyr 355	Ser	Asp	Phe	Ala	Ile	Leu 360	Tyr	Arg	Thr	Asn	Ala 365
Gln	Ser	Arg	Val	Phe 370	Glu	Glu	Ala	Leu	Arg	Lys 375	Arg	Gly	Met	Pro	Tyr 380
Lys 385	Ile	Tyr	Gly	Gly 390	Leu	Ser	Phe	Tyr	Gln	Arg 395	Lys	Glu	Ile	Lys	Asp 400
Ile	Ile	Ala	Tyr	Phe 405	Arg	Leu	Val	Val	Asn	Pro 410	Asn	Asp	Glu	Glu	Ala 415
Phe	Lys	Arg	Ile	Ile 420	Asn	Tyr	Pro	Ala	Arg	Gly 425	Ile	Gly	Asp	Thr	Thr 430
Val	Gly	Lys	Ile	Ile 435	Thr	Ala	Ala	Thr	Asp	Asn 440	Asn	Val	Ser	Leu	Trp 445
Thr	Ala	Leu	Cys	Glu 450	Pro	Ile	Thr	Tyr	Gly	Leu 455	Ser	Ile	Asn	Lys	Gly 460
Thr 465	His	Thr	Lys	Leu 470	Gln	Asp	Phe	Arg	Ala	Leu 475	Ile	Glu	Gln	Phe	Met 480
Ala	Asp	Val	Thr	Val 485	Lys	Asn	Ala	Tyr	Glu	Ile 490	Gly	Thr	Glu	Ile	Ile 495
Arg	Gln	Ser	Gly	Ile 500	Ile	Asn	Glu	Val	Cys	Gln 505	Asp	Asn	Ser	Pro	Glu 510
Asn	Leu	Ser	Arg	Lys 515	Glu	Asn	Ile	Glu	Glu	Leu 520	Val	Asn	Gly	Met	Asn 525
Asp	Phe	Cys	Ala	Met 530	Arg	Gln	Glu	Glu	Gly	Asn 535	Thr	Asn	Val	Ser	Leu 540
Ile 545	Asp	Phe	Leu	Ser 550	Glu	Val	Ser	Leu	Leu	Thr 555	Asp	Gln	Asp	Ser	Asp 560
Lys	Glu	Gly	Asp	Gly 565	Glu	Lys	Val	Thr	Leu	Met 570	Thr	Val	His	Ser	Ala 575
Lys	Gly	Leu	Glu	Phe 580	Arg	Asn	Val	Phe	Val	Val 585	Gly	Met	Glu	Glu	Asn 590
Leu	Phe	Pro	Ser	Gly 595	Met	Ala	Gly	Asp	Ser	Pro 600	Arg	Ala	Met	Glu	Glu 605
Glu	Arg	Arg	Leu	Phe 610	Tyr	Val	Ala	Ile	Thr	Arg 615	Ala	Glu	Glu	His	Cys 620
Phe 625	Leu	Ser	Phe	Ala 630	Lys	Thr	Arg	Phe	Arg	Tyr 635	Gly	Lys	Met	Glu	Phe 640
Gly	Ser	Pro	Ser	Arg 645	Phe	Leu	Arg	Asp	Ile	Asp 650	Thr	Arg	Phe	Leu	Gln 655
Leu	Pro	Gln	Glu	Ala 660	Ala	Leu	Gly	Arg	Ser	Val 665	Asp	Glu	Gly	Ala	Gly 670
Arg	Phe	Arg	Arg	Glu 675	Met	Glu	Glu	Gly	Tyr	Ser 680	Arg	Arg	Ser	Ser	Ser 685

Glu Arg Phe Ser Ala Arg Pro Ser Ala Asp Arg Pro Glu Arg Glu Arg  
 690 695 700  
 Pro Lys Ala Gln Ile Ile Ala Pro Thr Val Pro Arg Asn Leu Lys Lys  
 705 710 715 720  
 Val Ser Gly Thr Thr Leu Ser Pro Ser Ser Ala Ser Gly Ala Gly Val  
 725 730 735  
 Ala Gly Val Gln Pro Gly Gln Thr Ile Glu His Glu Arg Phe Gly Leu  
 740 745 750  
 Gly Glu Val Ile Arg Val Glu Gly Thr Gly Asp Asn Ala Lys Ala Thr  
 755 760 765  
 Ile His Phe Arg Asn Ala Gly Asp Lys Gln Leu Leu Leu Arg Phe Ala  
 770 775 780  
 Arg Phe Lys Val Ile Glu  
 785 790

<210> 5785

<211> 72

<212> PRT

<213> B.fragilis

<400> 5785

Leu Lys Phe Leu Lys Gln Met Leu Lys Glu Lys Ala Gly Glu Ile Ala  
 1 5 10 15  
 Gly Lys Ile Trp Asn Ala Leu Asn Gly Thr Glu Gly Leu Thr Ala Lys  
 20 25 30  
 Gln Ile Lys Lys Ala Thr Lys Leu Val Asp Lys Asp Leu Phe Leu Gly  
 35 40 45  
 Leu Gly Trp Leu Leu Arg Glu Asp Lys Ile Ser Thr Gln Glu Ile Glu  
 50 55 60  
 Gly Glu Leu Phe Val Thr Leu Asn  
 65 70

<210> 5786

<211> 442

<212> PRT

<213> B.fragilis

<400> 5786

Val Ser Tyr Tyr Leu Asp Gln Tyr Val Phe Tyr Met Ile Phe Phe Lys  
 1 5 10 15  
 Val Lys Thr Arg Asn Leu Val Phe Ser Phe Ile Leu Leu Ser Leu Leu  
 20 25 30  
 Ile Val Ser Asp Leu Leu Leu Phe Thr Arg Tyr Ser Asn Trp Gly Ile  
 35 40 45  
 Lys Thr Asp Ser Ile Trp Leu Phe Ile Ala Ile Ile Asp Val Val Leu  
 50 55 60  
 Leu Phe Met Leu Ile Ser Phe Phe Arg Phe Lys Arg Ile Val Asn Pro  
 65 70 75 80  
 Ser Ser Val Tyr Leu Val Phe Val Gly Leu Phe Ala Tyr Ser Val Leu  
 85 90 95  
 Pro Leu Ser Glu Asn Ile Arg Phe Ser Asn Glu Leu Leu Leu Ile Ile  
 100 105 110  
 Leu Cys Gly Val Ala Ala Tyr Phe Val Gly Val Phe Cys Leu Pro Gln  
 115 120 125  
 Ile His Ile Ile Thr Phe Pro Val Phe Thr Asn Arg Thr Lys Arg Ile  
 130 135 140  
 Phe Tyr Tyr Ile Leu Cys Val Leu Thr Phe Ser Cys Phe Ile Tyr Glu  
 145 150 155 160  
 Ile Lys Asn Val Gly Tyr Ile Pro Val Phe Val Ile Gly Gln Ser Leu

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      165      170      175
Asp Ile Tyr Gly Glu Val Gly Glu Ser Asn Ser Val Leu His Thr Phe
      180      185      190
Val Leu Leu Thr Pro Ile Leu Phe Tyr Trp Ser Leu Ile Leu Ala Lys
      195      200      205
Glu Gly Ile Ile Gln Thr Arg Ile Arg Asn Cys Ile Val Ser Phe Leu
      210      215      220
Leu Phe Val Phe Val Asn Asn Phe Gly Arg Thr Ser Leu Leu Met Phe
      225      230      235      240
Ile Ile Thr Gly Leu Ile Tyr Leu Glu Phe Tyr Thr Lys Leu Ser Val
      245      250      255
Ser Lys Phe Ile Ser Ile Ile Phe Leu Phe Ile Ser Leu Phe Ile Ile
      260      265      270
Met Gly Asn Val Arg Ser Gly Ser Thr Phe Asp Gly Ile Asn Lys Val
      275      280      285
Leu Arg Arg Ile Gly Asn Thr Gln Tyr Glu Thr Ser Ile Leu Glu Ser
      290      295      300
Tyr Leu Ile Ser Tyr Ser Ser Val Asn Phe Tyr Lys Met Asn Asp Val
      305      310      315      320
Ile Gln Leu Lys Glu Val Leu Asn Tyr Ser Ser Asn Gly Arg Asn Ser
      325      330      335
Leu Lys Pro Ile Val Lys Leu Leu Ser Ile Ser Glu Pro Leu Asp Asn
      340      345      350
Val Ala Glu Phe Gln Thr Gln Gln Asn Leu Ser Thr Tyr Ile Ala Asp
      355      360      365
Pro Tyr Leu Asp Phe Gly Tyr Ala Gly Val Val Val Leu Asn Cys Leu
      370      375      380
Tyr Gly Met Ile Ala Val Met Leu Phe Glu Arg Tyr Glu Lys Lys Asn
      385      390      395      400
Cys Pro Glu Tyr Ile Ile Ser Trp Gly Val Val Val Phe Cys Ile Leu
      405      410      415
Met Gly Cys Phe Phe Asn Ala Phe Asn Thr Met Leu Val Trp Val Ile
      420      425      430
Tyr Ile Cys Asn Lys Ile Leu Leu Lys Arg
      435      440

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&lt;210&gt; 5787

&lt;211&gt; 451

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5787

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Thr Ile His Tyr Met Ser Lys Lys Glu Thr Leu Lys Gln Gln Ile Leu
1      5      10      15
Asp Leu Thr Arg Glu Tyr Tyr Lys Glu Val His Gly Ser Ser Arg Ser
      20      25      30
Phe Glu Pro Gly Lys Ser Phe Val Asn Tyr Gly Gly Arg Tyr Phe Asp
      35      40      45
Asp Arg Glu Leu Val Asn Leu Val Asp Ser Ser Leu Asp Phe Trp Leu
      50      55      60
Thr Ala Gly Pro Trp Ala Arg Lys Phe Glu Ile Arg Phe Ala Glu Trp
      65      70      75      80
Leu Gly Val Lys Tyr Cys Ser Leu Thr Asn Ser Gly Ser Ser Ala Asn
      85      90      95
Leu Leu Ala Phe Met Ala Leu Thr Ser Pro Gln Leu Gly Glu Arg Arg
      100      105      110
Ile Arg Arg Gly Asp Glu Val Ile Thr Val Ala Cys Gly Phe Pro Thr
      115      120      125
Thr Val Thr Pro Cys Ile Gln Tyr Gly Ala Val Pro Val Phe Val Asp

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      130              135              140
Val Thr Ile Pro Glu Tyr Asn Ile Asp Val Thr Gln Leu Glu Ala Ala
145              150              155              160
Leu Ser Pro Lys Thr Lys Ala Val Met Ile Ala His Ser Leu Gly Asn
      165              170              175
Pro Phe Asp Leu Gln Ala Val Lys Asp Phe Cys Asp Lys His Asn Leu
      180              185              190
Trp Leu Val Glu Asp Asn Cys Asp Ala Leu Gly Ser Thr Tyr Thr Ile
      195              200              205
Asp Gly Val Glu Lys Lys Thr Gly Thr Ile Gly His Ile Gly Thr Ser
      210              215              220
Ser Phe Tyr Pro Pro His His Met Thr Met Gly Glu Gly Gly Ala Val
225              230              235              240
Tyr Thr Asp Asp Pro Leu Leu His Lys Leu Val Asn Ser Phe Arg Asp
      245              250              255
Trp Gly Arg Asp Cys Trp Cys Ile Gly Gly Val Asp Asn Thr Cys Lys
      260              265              270
Tyr Arg Phe Ser Lys Gln Phe Gly Asp Leu Pro Val Gly Tyr Asp His
      275              280              285
Lys Tyr Val Tyr Ser His Phe Gly Tyr Asn Leu Lys Val Thr Asp Met
      290              295              300
Gln Ala Ala Ile Gly Cys Ala Gln Leu Glu Lys Leu Asp Ser Ile Val
305              310              315              320
Glu Ala Arg Arg Ser Asn Phe Ala Tyr Leu Lys Glu Gly Leu Ala Gly
      325              330              335
Thr Ser Gly Leu Ile Leu Pro Glu Ala Gln Lys Asn Ser Asp Pro Ser
      340              345              350
Trp Phe Gly Phe Leu Ile Ser Val Lys Glu Asp Ala Gly Phe Thr Arg
      355              360              365
Asn Asp Leu Ser Gln His Leu Glu Ser Arg Lys Ile Gln Thr Arg Asn
      370              375              380
Leu Phe Ala Gly Asn Leu Leu Lys His Pro Ala Phe Asp Glu Met Arg
385              390              395              400
Ser Thr Gly Glu Gly Tyr Arg Val Ile Gly Asn Leu Glu Gly Thr Asp
      405              410              415
Tyr Val Met Asn His Thr Leu Trp Ile Gly Val Tyr Pro Gly Met Thr
      420              425              430
Arg Ala Met Leu Asp His Met Ile Gly Thr Ile Arg Asp Phe Val Ser
      435              440              445
Ser Arg Lys
450

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&lt;210&gt; 5788

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5788

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Arg Glu His Tyr Leu Met Tyr Val Lys Lys Arg Asn Asn His Phe Lys
1      5      10      15
Ile Tyr Asn Leu Met Glu Gln Arg Thr Tyr Leu Pro Leu Val Ser Val
      20      25      30
Ile Thr Val Cys Tyr Asn Ala Thr Thr Val Ile Glu Ala Thr Ile Leu
      35      40      45
Ser Ile Ile Gly Gln Thr Tyr Ser Asn Ile Glu Tyr Ile Ile Ile Asp
      50      55      60
Gly Gly Ser Thr Asp Gly Thr Ile Glu Val Ile Lys Lys Tyr Glu Lys
65      70      75      80
Lys Ile Ser Tyr Trp Val Ser Glu Pro Asp Lys Gly Ile Tyr Asp Ala

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195	200	205
Leu Ile Ile Arg Thr Glu Asn Phe Ser Trp Ile Val Leu Leu Val Val		
210	215	220
Tyr Gly Val Asp Ser Val Leu Thr Ile Ile His Arg Leu Met Leu His		
225	230	235
Glu Asn Ile Gly Leu Pro His Arg Lys His Leu Tyr Gln Leu Met Ala		
245	250	255
Asn Glu Leu Glu Ile Pro His Val Met Val Ser Leu Ile Tyr Met Thr		
260	265	270
Ser Gln Ala Ile Ile Ile Val Gly Tyr Leu Leu Thr Pro Gly Trp Gly		
275	280	285
Tyr Cys Tyr Leu Leu Gly Thr Ile Val Ile Leu Ser Met Val Tyr Ile		
290	295	300
Leu Phe Met Lys Lys Tyr Phe His Leu His Pro Ala Met Lys		
305	310	315

&lt;210&gt; 5790

&lt;211&gt; 495

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5790

Ile Asn Glu Tyr Tyr Met Lys Arg Tyr Phe Leu Leu Ser Ala Phe Ala		
1	5	10
Phe Cys Ser Leu Ala Leu Ser Ala Gln Glu Thr Gln Glu Ile Thr Leu		
20	25	30
Asn Glu Ala Ile Ala Leu Ala Arg Thr Gln Ser Val Asp Ala Ala Val		
35	40	45
Ala Leu Asn Glu Leu Lys Thr Ala Tyr Trp Glu Tyr Arg Thr Phe Arg		
50	55	60
Ala Asp Leu Leu Pro Glu Val Asn Phe Ser Gly Thr Leu Pro Ser Tyr		
65	70	75
Ser Lys Gln Tyr Asn Ser Tyr Gln Asn Glu Asp Gly Ser Tyr Ser Phe		
85	90	95
Val Arg Ser Asn Lys Leu Gly Leu Asn Gly Ala Leu Ser Ile Asp Gln		
100	105	110
Asn Ile Trp Phe Thr Gly Gly Lys Val Ser Leu Ser Ser Leu Asp		
115	120	125
Phe Met Lys Gln Leu Gly Ser Gly Gly Ser Arg Gln Phe Met Ser Val		
130	135	140
Pro Ile Ala Leu Gln Leu Thr Gln Pro Ile Phe Gly Val Asn Asn Leu		
145	150	155
Lys Trp Asn Arg Arg Ile Glu Pro Val Arg Tyr Glu Glu Ala Lys Ala		
165	170	175
Ala Phe Ile Thr Ala Thr Glu Thr Val Thr Met Asn Ala Ile Thr Tyr		
180	185	190
Phe Phe Asn Leu Leu Ser Ala Lys Glu Thr Leu Gly Thr Ala Arg Gln		
195	200	205
Asn Gln Val Asn Ala Asp Arg Leu Tyr Glu Val Ala Gly Ala Lys Arg		
210	215	220
Lys Met Gly Gln Ile Ser Glu Asn Glu Leu Leu Gln Leu Lys Leu Ala		
225	230	235
Ala Leu Lys Ala Arg Ala Ala Val Thr Asp Ala Glu Ser Asn Leu Asn		
245	250	255
Ala His Met Phe Arg Leu Arg Ser Phe Leu Ala Ile Gly Asn Asp Leu		
260	265	270
Ile Leu Glu Pro Val Val Pro Glu Ser Ala Pro Asn Leu Lys Met Glu		
275	280	285
Tyr Asn Gln Val Leu Asn Lys Ala Leu Glu Arg Asn Ser Phe Ala His		

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      290                      295                      300
Asn Ile Arg Arg Arg Gln Leu Glu Ala Glu Tyr Glu Val Ala Thr Ala
305                      310                      315                      320
Arg Gly Asn Leu Arg Ser Val Asp Leu Phe Ala Asn Val Gly Tyr Thr
      325                      330                      335
Gly Leu Asn Lys Asp Leu Ser Pro Ala Tyr His Asn Leu Leu Asp Asn
      340                      345                      350
Gln Val Val Glu Val Gly Val Lys Ile Pro Ile Leu Asp Trp Gly Lys
      355                      360                      365
Arg Arg Gly Lys Val Arg Val Ala Lys Ser Asn Arg Asp Val Thr Leu
      370                      375                      380
Ser Lys Ile Lys Lys Glu Gln Met Asp Phe Asp Gln Asp Ile Phe Leu
385                      390                      395                      400
Leu Val Glu His Phe Asn Asn Gln Ala Gln Gln Leu Ser Ile Ala Asn
      405                      410                      415
Glu Ala Asp Lys Ile Ala Gln Gln Arg Tyr Lys Thr Ser Val Glu Thr
      420                      425                      430
Phe Leu Ile Gly Lys Ile Asn Thr Leu Asp Leu Asn Asp Ala Gln Asn
      435                      440                      445
Ser Lys Asp Asp Ala Arg Gln Lys His Ile Asn Glu Leu Tyr Trp Tyr
450                      455                      460
Trp Tyr Tyr Tyr Tyr Gln Leu Arg Ser Leu Thr Leu Trp Asp Phe Gln
465                      470                      475                      480
Asn Asn Thr Pro Leu Glu Ala Asp Phe Glu Asp Ile Val Lys Lys
      485                      490                      495

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&lt;210&gt; 5791

&lt;211&gt; 801

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5791

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Asn Gly Gly Tyr Asn Glu Glu Lys Ser Gln Ile Cys Lys Arg Gln Arg
1                      5                      10                      15
Arg Met Lys Arg Ile Ile Leu Ala Ala Leu Gly Ser Ala Leu Leu Leu
      20                      25                      30
Pro Ser Gln Ala Gln Gln Lys Asn Lys Glu Tyr Thr Asn Phe Asn Asp
      35                      40                      45
Ser Val Phe Ser Ile Asn Glu Val Val Val Ala Thr Asn Tyr Arg Arg
50                      55                      60
Lys Thr Asp Ala Leu Lys Leu Asp Val Pro Ala Lys Phe Ile Pro Ile
65                      70                      75                      80
Ser Thr Asn Ser Ile Thr Ser Gly Met Leu Glu Lys Arg Asn Ile Arg
      85                      90                      95
Asp Ile Gln Glu Ala Ser Arg Phe Leu Pro Gly Val Arg Phe Arg Thr
      100                      105                      110
Ser Tyr Gly Ala Phe Thr Gln Phe Ser Ile Arg Gly Phe Asp Asn Ser
      115                      120                      125
Val Ile Met Val Asp Gly Val Arg Asp Glu Arg Ser Ser Ile Asp Asn
130                      135                      140
Ser Tyr Pro Phe Met Asp Leu Ser Ala Val Glu Ser Ile Glu Leu Leu
145                      150                      155                      160
Lys Gly Pro Ala Ser Val Leu Tyr Gly Gln Ser Ala Val Gly Gly Val
      165                      170                      175
Leu Asn Ile Val Arg Lys Ala Pro Val Ser Lys Gln Ser Val Tyr Ala
180                      185                      190
Arg Leu Ala Tyr Gly Ser Tyr Tyr Asn Lys Gln Ala Thr Met Ala Leu
195                      200                      205
Gly Gly Lys Leu Ile Gly Pro Leu Asn Tyr Arg Ala Ser Val Asn Trp

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210		215		220
Gln Asp Gln Glu Gly Trp Arg Ser Asn Ala Thr Lys Arg Leu Ser Gly				
225		230		235
Tyr Leu Ala Leu Gly Gly His Leu Thr Glu Asn Asp Glu Leu Asp Ile				240
	245		250	255
Arg Ile Gly Ala Asn Arg Asp Phe Tyr Pro Thr Glu Ile Gly Leu Pro				
	260		265	270
Pro Thr Met Ser Tyr Asp Ile Leu Ser Ala Thr Asp Gly Ser Lys Tyr				
	275		280	285
Leu Ser Lys Gly Asp Ala Leu Pro Gly Leu Asn Lys Lys Ala Arg Tyr				
	290		295	300
Asn Ser Glu Ser Asp Phe Met Tyr Asn Arg Gly Phe Asn Ala Ser Ala				
305		310		315
Met Tyr Lys His Thr Phe Ser Glu Ala Phe Lys Leu Met Glu Lys Leu				
	325		330	335
Ser Tyr Thr Tyr Asp Asp Ile Asp Tyr Phe Gly Thr Glu Ser Leu Asp				
	340		345	350
Tyr Leu Thr Ser Asp Arg Pro Ile Tyr Asp His Tyr Tyr Met Thr Lys				
	355		360	365
Asp Lys Gln Gly Asn Asp Thr Lys Lys Tyr Ile Cys Leu Asp Ser Ile				
	370		375	380
Tyr Tyr Ser Tyr Pro Leu Arg Phe Ser His Ile Ala Lys Thr Val Asn				
385		390		395
Asn Gln Leu Glu Ala Ser Gly Lys Phe Tyr Thr Gly Asp Val Ala His				
	405		410	415
Asn Tyr Leu Gly Gly Tyr Ser Phe Val Ser Leu Met Arg Asp Ser Tyr				
	420		425	430
Met Ala Tyr Gly Asn Gly Ser Thr Gly Ala Thr Gly Pro Gly Thr Thr				
	435		440	445
Gly His Ser Ser Val Tyr Asn Pro His Ser Ile Gly Trp Met Glu Ala				
	450		455	460
Pro Phe Arg Phe Val Thr Ala Gln Lys Thr Phe Thr His Gly Phe Tyr				
465		470		475
Leu Gln Asp Leu Val Glu Phe Ser Asp Lys Leu Lys Met Met Leu Ala				
	485		490	495
Gly Arg Tyr Asp Leu Phe Met Tyr Lys Thr Ala Asn Leu Asn Thr Ser				
	500		505	510
Asp Gly Gly Arg His Tyr Asp Lys Pro Asp Asp Asp Ala Tyr Asn Lys				
	515		520	525
Ile Thr Asn Gly Ala Phe Thr Phe Arg Ala Gly Leu Val Tyr Leu Pro				
	530		535	540
Ile Glu Lys Leu Ser Val Tyr Gly Ser Tyr Gly Thr Tyr Phe Lys Pro				
545		550		555
Ile Arg Ala Phe Tyr Asp Ala Asn Thr Ile Tyr Ile Asp Lys Asp Gly				
	565		570	575
Lys Glu Phe Thr Pro Val Asn Gly Lys Glu Val Phe Lys Pro Glu Lys				
	580		585	590
Gly Phe Gln Val Glu Val Gly Ala Arg Tyr Glu Ile Thr Arg Thr Leu				
	595		600	605
Gln Thr Asn Val Ser Leu Phe Tyr Ile Asn Lys Asp Asn Ile Arg Gln				
	610		615	620
Thr Leu Ala Asn Lys Gly Asp Ile Ala Asn Gly Val Glu Leu Asp Lys				
625		630		635
Lys Val Val Gly Gln Val Gly Lys Met Asp Ser Lys Gly Phe Asp Ile				
	645		650	655
Asp Ile Thr Trp Ser Pro Ile Tyr Asn Leu Ser Met Ser Ala Gly Tyr				
	660		665	670
Gly Tyr Thr Asp Ala Lys Val Arg Asp Leu Ala Asp Asn Pro Tyr Met				
	675		680	685



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Pro Thr Thr Ser Ser Lys Gly Lys Gln Tyr Ala Tyr Ile Pro Lys Asn
 690          695          700
Thr Phe Tyr Ala Phe Gly Ala Tyr Thr Val Ser Lys Gly Val Leu Lys
705          710          715          720
Gly Leu Gly Val Asn Phe Ser Thr Ser Phe Gln Asp Lys Val Tyr Arg
          725          730          735
Asn Ser Asp Asn Thr Ser Ser Phe Asp Ala Tyr Trp Leu Thr Asp Leu
          740          745          750
Gly Phe Ser Tyr Thr Leu Lys Ser Asn Val Arg Leu Gly Val Asn Ile
          755          760          765
Asn Asn Leu Phe Asn Lys Glu Tyr Cys Asn Gln Ala Leu Gly Asn Gln
          770          775          780
Leu Ile Pro Ser Met Pro Arg Asn Phe Met Leu Ser Ala Ser Tyr Thr
785          790          795          800
Leu

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<210> 5792
<211> 94
<212> PRT
<213> B.fragilis

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<400> 5792
Val Arg Phe His Lys Ile Lys Glu Ile Phe Leu Phe Glu Leu Tyr Lys
 1          5          10          15
Tyr Ser Leu Tyr Ile Leu Gly Phe Arg Arg Leu Phe Ser Pro Val Gly
          20          25          30
Ser Val Cys Thr Ile Gln Ile Tyr Thr Lys Arg Arg Gly Tyr Pro Leu
          35          40          45
Gly Val Ala Ser His Lys Pro Val Asn Leu Lys Leu Phe Phe Asp Gly
          50          55          60
Cys Leu Arg Arg Cys Gln Thr Cys Asp Arg His Thr Glu Arg Arg Thr
65          70          75          80
Ala Asn Val Ile Gln Thr Tyr Phe Met Ala Glu Leu Asn Arg
          85          90

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<210> 5793
<211> 299
<212> PRT
<213> B.fragilis

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<400> 5793
Ser Met Asn Leu Leu Phe Thr Gly Ala Ser Gly Phe Leu Gly Ser Asn
 1          5          10          15
Leu Tyr Ser Leu Leu Lys Asp Lys Tyr Gln Ile Arg Thr Val Gly Leu
          20          25          30
Thr Pro Arg Asp Asn Tyr Thr Ile Asn Leu Val Ser Asp Val Pro Lys
          35          40          45
Leu Asn Ile Lys Tyr Asp Val Val Leu His Ala Ala Gly Lys Ala His
          50          55          60
Ser Ile Pro Lys Thr Glu Glu Glu Lys Gln Leu Phe Phe Asp Val Asn
65          70          75          80
Leu Gln Gly Thr Lys Asn Leu Cys Thr Ala Leu Glu Asn Ser Gly Ile
          85          90          95
Pro Lys Ala Phe Ile Phe Ile Ser Thr Val Ala Val Tyr Gly Cys Asp
          100          105          110
Ser Gly Glu Asn Ile Thr Glu Glu His Pro Leu Asn Gly Thr Thr Pro
          115          120          125
Tyr Ala Leu Ser Lys Ile Lys Ala Glu Lys Tyr Leu Glu Gly Trp Cys

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130		135		140
Ala Met His Asn Val Lys Leu Ser Ile Leu Arg Pro Ser Leu Ile Ala				
145		150		155
Gly Pro Asn Pro Pro Gly Asn Leu Gly Ala Met Ile Arg Gly Ile Arg				160
		165		170
Asn Gly Lys Tyr Leu Ser Ile Ala Gly Gly Lys Ala Arg Lys Ser Val				175
		180		185
Leu Met Val Gln Asp Ile Ala Asn Leu Leu Pro Met Leu Ile Glu Lys				190
		195		200
Gly Gly Ile Tyr Asn Val Cys Asp Ser Tyr Gln Pro Ser Phe Arg Glu				205
		210		215
Leu Glu Met Val Ile Cys Asn Gln Leu Asn Lys Lys Arg Pro Ile Ser				220
225		230		235
Ile Pro Tyr Trp Leu Ala Lys Ser Met Ala Val Ile Gly Asp Cys Leu				240
		245		250
Gly Lys Lys Ala Pro Ile Asn Ser Leu Lys Leu Arg Lys Ile Thr Ser				255
		260		265
Ser Leu Thr Phe Ser Asn Glu Lys Ala Val Arg Glu Leu Lys Trp Lys				270
		275		280
Pro Met Asn Val Leu Glu Thr Phe Leu Ile Glu				285
		290		295

&lt;210&gt; 5794

&lt;211&gt; 478

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5794

Ser Gly Cys His Pro Gly Lys Cys His Ser Leu Leu Ser Arg Cys Gly				
1		5		10
Thr Thr Gln Thr Arg Lys Arg Arg Ile Ala Asp Asp Arg Tyr Thr Asp				15
		20		25
Val Leu Phe Ile Arg Ile Val His Tyr Ile Lys Arg Met Lys Thr Ser				30
		35		40
Glu Thr Thr Arg Pro Thr Leu Ser Ser Leu Pro Val Gly Lys Arg Ala				45
		50		55
Glu Glu Gly Thr Pro His Asn Leu Phe Thr Val Ile Gly Leu Asp Asp				60
65		70		75
Ser Pro Ser Pro Tyr Leu Ser Pro Ser Val Lys Ala Leu Ile Asp Gln				80
		85		90
Gly Cys Val Phe Ser Gly Gly Thr Arg His His Asp Ile Val Ala Pro				95
		100		105
Leu Leu Pro Ala Gly Ala Lys Trp Ile Asp Ile Thr Val Pro Leu Asp				110
		115		120
Gln Val Phe Ala Arg Tyr Ala Gly His Pro His Ile Ile Val Phe Ala				125
		130		135
Ser Gly Asp Pro Ile Phe Phe Gly Phe Ala Asn Thr Ile His Arg Arg				140
145		150		155
Leu Pro Asp Ala Glu Ile Arg Leu Tyr Pro Ser Phe Asn Ser Leu Gln				160
		165		170
Thr Leu Ala His Arg Leu Val Met Pro Tyr Asp Asp Met Arg Thr Ile				175
		180		185
Ser Leu Thr Gly Arg Pro Trp His Gly Phe Asp Arg Ala Leu Ile Glu				190
		195		200
Arg Thr Pro Lys Met Gly Ile Leu Thr Asp Arg Glu His Thr Pro Ala				205
		210		215
Thr Ile Ala Ser Arg Met Leu Asp Tyr Gly Tyr Asn Asp Tyr Thr Met				220
225		230		235
Tyr Ile Gly Glu His Leu Gly His Pro Ala Lys Glu Leu Ile Arg Arg				240



<210> 5796

<211> 103  
 <212> PRT  
 <213> B.fragilis

<400> 5796

Phe	Gly	Phe	Leu	Phe	Leu	Phe	Thr	Val	Tyr	Arg	Cys	Phe	Lys	Ile	Thr
1			5						10					15	
Val	Arg	Asp	Asn	Ser	Ser	Ile	Pro	Ala	Thr	Ala	Gln	Ser	Asp	Gly	Gly
		20						25					30		
Met	Leu	Leu	Asn	Tyr	Asp	Asp	Thr	Glu	Asn	Arg	Thr	Tyr	Leu	Arg	Phe
		35					40					45			
Thr	Gly	Tyr	Pro	Pro	Leu	Ile	Thr	Gln	Leu	Asn	Asn	Ile	Gly	Lys	Glu
	50					55					60				
Gly	Tyr	Ile	Asn	Val	Ile	Asp	Thr	Lys	Ser	Val	Leu	Lys	Val	Ser	Pro
65					70				75						80
Ser	Asn	Asn	Gln	Ile	Glu	Val	Ala	Pro	Phe	Glu	Asp	Tyr	Asp	Ala	His
				85					90					95	
Thr	Thr	Arg	Cys	Val	Gln	Glu									
			100												

<210> 5797  
 <211> 68  
 <212> PRT  
 <213> B.fragilis

<400> 5797

Thr	Gln	Phe	Leu	Leu	Ser	Ile	Tyr	Phe	Lys	Tyr	Gln	Ile	Ser	Lys	Tyr
1			5						10					15	
Tyr	Lys	Ile	Tyr	His	His	Trp	Ala	Thr	Gly	Lys	Phe	Leu	Gly	Tyr	Tyr
		20						25					30		
Lys	Cys	Ser	Tyr	Tyr	Gln	Ser	Arg	Tyr	Tyr	Arg	Cys	Arg	Val	Asp	Ser
		35					40					45			
Arg	Ser	Tyr	Asn	Ser	Trp	Arg	Phe	Met	Ser	Thr	Asn	Glu	Ser	Tyr	Leu
	50					55					60				
Phe	Arg	Ser	Ile												
65															

<210> 5798  
 <211> 240  
 <212> PRT  
 <213> B.fragilis

<400> 5798

Asn	Ile	Ala	Lys	Thr	Met	Ile	Thr	Val	Cys	Met	Ala	Thr	Tyr	Asn	Gly
1			5						10					15	
Glu	Lys	Tyr	Ile	Glu	Glu	Gln	Leu	Glu	Ser	Val	Leu	Met	Gln	Leu	His
		20						25					30		
Ser	Asn	Asp	Glu	Val	Ile	Ile	Ser	Asp	Asp	Gly	Ser	Gly	Asp	Ser	Thr
		35					40					45			
Val	Asp	Leu	Ile	Arg	Thr	Phe	Asn	Asp	Pro	Arg	Ile	Arg	Leu	Leu	Val
	50					55					60				
Gly	Asn	Asn	Phe	Phe	Ser	Pro	Thr	Gln	Asn	Phe	Glu	Asn	Ala	Leu	Lys
65					70				75						80
Tyr	Ala	Lys	Gly	Asp	Tyr	Ile	Phe	Leu	Cys	Asp	Gln	Asp	Asp	Val	Trp
			85					90						95	
Leu	Pro	Asp	Lys	Val	Glu	Ser	Met	Leu	Gln	Tyr	Leu	Leu	Gln	Tyr	Asp
		100						105					110		
Leu	Val	Val	Ser	Asp	Cys	Lys	Val	Val	Asp	Ala	Glu	Leu	Asn	Val	Ile
		115					120						125		

Ser Gln Ser Phe Phe Met Gly Arg Ser Ser Gly Lys Gly Phe Trp Lys  
 130 135 140  
 Asn Leu Ile Lys Asn Thr Tyr Leu Gly Cys Cys Ile Ala Phe Arg Lys  
 145 150 155 160  
 Glu Val Leu Gly Tyr Ile Leu Pro Phe Pro Arg Asn Ile Ala Met His  
 165 170 175  
 Asp Ile Trp Ile Gly Leu Ser Val Glu Met His Ser Asn Ser Phe Phe  
 180 185 190  
 Leu Pro Arg Gln Leu Ile Leu Tyr Arg Arg His Gly Ser Asn Val Ser  
 195 200 205  
 Phe Gly Gly Glu Gly Ser Lys Tyr Ser Leu Met Tyr Lys Ile Lys Tyr  
 210 215 220  
 Arg Leu Cys Met Leu Phe Tyr Leu Leu Lys Arg Lys Tyr Leu Asn Lys  
 225 230 235 240

<210> 5799

<211> 68

<212> PRT

<213> B.fragilis

<400> 5799

Ala Arg His Asn Thr Pro Glu Val Arg Gly Pro Thr Ser His Leu Pro  
 1 5 10 15  
 Ser Arg Ile Ser His Asp Phe Tyr Lys Lys Val Arg Asp Thr Ala Lys  
 20 25 30  
 Thr Ile Asn His Ser Glu Gln Thr Thr Asn Thr Ile Ser Tyr Ser Thr  
 35 40 45  
 Asn Ser Ile Asn Tyr Leu Pro Asn Leu Ser Arg Arg Leu Glu Asn Gly  
 50 55 60  
 Pro Tyr Tyr Arg  
 65

<210> 5800

<211> 409

<212> PRT

<213> B.fragilis

<400> 5800

Ser Ile His Lys Ile Asn Ile Met Glu Lys Asn Ile Phe Lys Leu Asp  
 1 5 10 15  
 Asn Glu Gln Leu Lys Gly Ile Ala His Ala Phe Arg Glu Lys Val Glu  
 20 25 30  
 Glu Gly Leu Asn Lys Asn Asn Ala Glu Ile Gln Cys Ile Pro Thr Phe  
 35 40 45  
 Ile Leu Pro Lys Ala Thr Asp Val Lys Gly Lys Ala Leu Val Leu Asp  
 50 55 60  
 Leu Gly Gly Thr Asn Tyr Arg Val Ala Ile Val Asp Phe Ser Thr Glu  
 65 70 75 80  
 Lys Pro Ile Ile Tyr Pro Asn Asn Gly Trp Lys Lys Asp Met Ser Ile  
 85 90 95  
 Met Lys Ser Pro Gly Tyr Thr Arg Glu Glu Leu Phe Lys Glu Leu Ala  
 100 105 110  
 Asp Leu Ile Val Glu Ile Lys Arg Glu Glu Glu Met Pro Ile Gly Tyr  
 115 120 125  
 Cys Phe Ser Tyr Pro Thr Glu Ser Ile Pro Gly Gly Asp Ala Arg Leu  
 130 135 140  
 Leu Arg Trp Thr Lys Gly Val Asp Ile Arg Glu Met Val Gly Gln Phe  
 145 150 155 160  
 Val Gly Lys Pro Leu Leu Asp Tyr Leu Asn Glu Lys Asn Lys Ile Arg

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<210> 5801
<211> 82
<212> PRT
<213> B.fragilis
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<210> 5802
<211> 439
<212> PRT
<213> B.fragilis
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<400> 5802  
Glu Asn Ser Asn Lys His Lys Met Ile Lys Gln Tyr Phe Lys Gln Ala  
1 5 10 15

Leu Ala Gln Leu Arg Gln Gln Pro Leu Leu Thr Thr Ile Ser Val Leu  
 20 25 30  
 Gly Thr Ala Leu Thr Ile Cys Leu Ile Met Val Val Val Met Gln Gln  
 35 40 45  
 Gln Ile Lys Thr Ala Pro Phe Ala Pro Glu Ser Asn Arg Asn Arg Leu  
 50 55 60  
 Leu His Val Lys Gln Met Ser Thr Ser Asn Lys Asn Trp Ser Asp Asp  
 65 70 75 80  
 Gly Ser Ser Asn Gly Pro Met Gly Leu Gln Thr Ala Lys Gly Cys Phe  
 85 90 95  
 Glu Gly Leu Thr Thr Ala Glu Glu Val Ser Ile Tyr Thr Ile Pro Glu  
 100 105 110  
 Thr Met Gln Val Ala Leu Pro Arg Gly Val Arg Thr Gly Ile Asp Ala  
 115 120 125  
 Leu Glu Thr Asp Gly Ala Phe Trp Arg Ile Phe Asp Phe Ser Phe Ile  
 130 135 140  
 Asp Gly Lys Pro Tyr Ser Asp Ala Glu Val Lys Ser Gly Leu Pro Val  
 145 150 155 160  
 Ala Val Ile Thr Glu Ser Val Ala Arg Leu Leu Phe Gly Thr Ser His  
 165 170 175  
 Gln Val Ser Gly Lys Glu Ile Leu Val Asn Asp Ala Val Tyr Arg Ile  
 180 185 190  
 Ser Gly Val Val Lys Asp Val Ser Ser Met Ala Ser Thr Ala Tyr Ala  
 195 200 205  
 Gln Ile Trp Val Pro Tyr Ser Ser Thr His Ile Thr Gly Gly Asp Asn  
 210 215 220  
 Thr Trp Cys Asp Gly Ile Met Gly Val Met Arg Val Val Ile Leu Ala  
 225 230 235 240  
 Arg Ser Ser Ser Asp Phe Glu Ala Ile Arg Ala Glu Cys Glu Arg Arg  
 245 250 255  
 Arg Leu Ala Tyr Asn Ala Gly Leu Gly Asp Tyr Phe Val Phe Tyr Arg  
 260 265 270  
 Gly Gln Pro Asp Asp Gln Leu Thr Met Ser Gln His Lys Trp Ala Asn  
 275 280 285  
 Val Gln Pro Asp Met Ala Ala Tyr Phe Arg Gln Gln Val Ile Ile Phe  
 290 295 300  
 Leu Ile Leu Leu Leu Val Pro Ala Ile Asn Leu Ser Ser Met Thr His  
 305 310 315 320  
 Ser Arg Leu Arg Gln Arg Val Ala Glu Ile Gly Val Arg Arg Ala Phe  
 325 330 335  
 Gly Ala Thr Arg Gly Gly Val Met Gly Gln Ile Val Ala Glu Asn Leu  
 340 345 350  
 Val Leu Thr Leu Met Ala Gly Val Val Gly Leu Leu Phe Cys Leu Ile  
 355 360 365  
 Ile Ser Tyr Cys Trp Gly Gly Thr Leu Phe Ala Asp Ser Arg Leu Met  
 370 375 380  
 Tyr Leu Asn Thr Ala Pro Val Ile Glu Trp Lys Met Leu Phe Lys Phe  
 385 390 395 400  
 Ser Thr Phe Ile Tyr Ala Leu Leu Phe Cys Leu Ala Leu Asn Leu Leu  
 405 410 415  
 Ser Ser Gly Trp Pro Ala Trp Arg Ala Ser Arg Met Ser Ile Ile Asn  
 420 425 430  
 Ala Leu Ser Gly Lys Leu Asn  
 435

&lt;210&gt; 5803

&lt;211&gt; 95

&lt;212&gt; PRT

&lt;213&gt; B.fragilis



&lt;400&gt; 5803

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Leu Phe Phe Asn Ile Phe Leu Ser Ile Ile Gly Ser His Thr Asn Cys
1          5          10          15
Tyr His Arg Phe Ser Asn Ile Leu Leu His Ile Tyr Ile Thr His Thr
20          25          30
Asn Ile Val Leu Asn Ala Leu Lys Lys His Pro Ile Asn Ile Gln Lys
35          40          45
Thr Thr Thr Pro His Glu Ile Met Tyr Ser Gly Gln Phe Phe Phe Ser
50          55          60
Tyr Leu Ser Asn Asn Ile Thr Ala Ile Ile Pro Tyr Arg Gln Leu Arg
65          70          75          80
Thr Thr Thr Pro Ala Tyr Pro Lys Ser Arg Tyr Gly Ser Ala Ile
85          90          95

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&lt;210&gt; 5804

&lt;211&gt; 192

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5804

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Arg Lys Leu Lys Asn Lys Asn Arg Met Thr Ala Thr Glu Arg Thr Ala
1          5          10          15
Glu Tyr Arg Lys Ala Leu Asp Val Pro Ile Ser Gln Leu Glu Thr Asp
20          25          30
Arg Ile Val Lys Glu Ile Leu Asp Arg Pro Glu Asn Phe Asp Asn Ile
35          40          45
Tyr Arg Leu Thr Ser Asp Asp Lys Leu Leu Val Ser Trp Arg Ala Leu
50          55          60
Trp Ile Cys Asp Lys Leu Cys Arg Gln Lys Pro Glu Trp Leu Ile Pro
65          70          75          80
Phe Arg Glu Glu Leu Thr Gly Arg Leu Met Ser Cys Gly His Asp Gly
85          90          95
Ser Lys Arg Leu Leu Leu Ser Ile Leu Tyr His Ala Pro Ala Thr Lys
100          105          110
Val Pro Ser Val Ala Leu Leu Asn Phe Cys Leu Asp Ala Met Leu Ser
115          120          125
Pro Gln Glu Ser Ile Gly Val Gln Ser Leu Ala Ile Arg Met Ala Tyr
130          135          140
Arg Leu Cys Glu Pro Glu Pro Glu Leu Leu Tyr Glu Leu Arg Thr Ile
145          150          155          160
Leu Glu Ser Thr Glu Thr Glu Met Tyr Ser Thr Ala Val Lys Ser Ala
165          170          175
Val Arg Asn Thr Leu Lys Lys Ile Asn Gln Lys Asn Lys Lys Lys Lys
180          185          190

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&lt;210&gt; 5805

&lt;211&gt; 266

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5805

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Asn Glu Leu Lys Thr Arg Ser Glu Met Glu Lys Leu Ile Ile Ala Gly
1          5          10          15
Arg Glu Phe Asn Ser Arg Leu Phe Leu Gly Thr Gly Lys Phe Ser Ser
20          25          30
Asn Glu Trp Met Glu Gln Ser Ile Leu Ala Ser Gly Thr Glu Met Val
35          40          45
Thr Val Ala Met Lys Arg Val Asp Met Glu Ser Thr Glu Asp Asp Met

```

50		55		60
Leu Lys His Ile Val	His Pro His Ile Gln	Leu Pro Asn Thr Ser		
65	70	75	80	
Gly Val Arg Asn Ala	Glu Glu Ala Val Phe	Ala Ala Gln Met Ala Arg		
	85	90	95	
Glu Ala Phe Gly Thr	Asn Trp Leu Lys	Leu Glu Ile His Pro Asp Pro		
	100	105	110	
Arg Tyr Leu Leu Pro	Asp Ser Val Glu Thr	Leu Lys Ala Thr Glu Glu		
	115	120	125	
Leu Val Lys Leu Gly	Phe Val Val Leu Pro	Tyr Cys Gln Ala Asp Pro		
	130	135	140	
Val Leu Cys Lys Gln	Leu Glu Glu Ala Gly	Ala Ala Thr Val Met Pro		
	145	150	155	160
Leu Gly Ala Pro Ile	Gly Thr Asn Lys Gly	Leu Gln Thr Lys Glu Phe		
	165	170	175	
Leu Gln Ile Ile Ile	Glu Gln Ala Gly Ile	Pro Val Val Val Asp Ala		
	180	185	190	
Gly Ile Gly Ala Pro	Ser His Ala Ala Glu	Ala Met Glu Met Gly Ala		
	195	200	205	
Ser Ala Cys Leu Val	Asn Thr Ala Ile Ala	Val Ala Gly Asn Pro Ile		
	210	215	220	
Glu Met Ala Lys Ala	Phe Lys Gln Ala Val	Glu Ala Gly Arg Thr Ala		
	225	230	235	240
Tyr Glu Ala Gly Leu	Gly Met Gln Ala Ile	Gly Phe Val Ala Glu Ala		
	245	250	255	
Ser Ser Pro Leu Thr	Ala Phe Leu Asn Glu			
	260	265		

&lt;210&gt; 5806

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5806

Lys Asn Ala Asn Thr	Lys Thr Gln His Pro	Ile Thr Glu Ser Ile Lys
1	5	10
Glu Lys Arg Gly Arg	Lys Thr Gly Ala Gln	Ile Pro Gly Ile Ile Ser
	20	25
Asn Asn Glu Gly Val	Ile Lys Ala Leu Ile	Glu Ser Tyr Ile Leu Asp
	35	40
Ala Lys Glu Gln Asn	Ile Lys Thr Cys Lys	Asp Ser Leu Ala Arg Tyr
	50	55
Ile Glu Glu Lys Glu	Leu Phe Gly Lys Met	Arg Asn Gly Val Phe Lys
	65	70
Pro Leu Val Phe Ser	Thr Ile Arg Asn Tyr	Val Asn Glu Ile Trp Asn
	85	90
Lys Met Glu Arg Lys	Lys Lys Asn Gln	Glu Gly Lys Arg
	100	105

&lt;210&gt; 5807

&lt;211&gt; 426

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5807

Lys Lys Asn Lys Arg	His Asp Ile Leu Met	Lys Asn Ile Phe Lys Asp
1	5	10
Leu Lys Ser Lys Asp	His Lys Arg Tyr	Leu Gly Gly Leu Asp Val Phe
	20	25
		30

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Arg Tyr Ile Gly Pro Gly Leu Leu Val Thr Val Gly Phe Ile Asp Pro
   35                               40   45
Gly Asn Trp Ala Ser Asn Phe Ala Ala Gly Ser Glu Phe Gly Tyr Ser
   50                               55   60
Leu Leu Trp Val Val Thr Leu Ser Thr Ile Met Leu Ile Ile Leu Gln
   65                               70   75                               80
His Asn Val Ala His Leu Gly Ile Val Thr Gly Leu Cys Leu Ser Glu
                               85   90   95
Ala Ala Thr Gln Tyr Thr Pro Lys Trp Val Ser Arg Pro Ile Leu Gly
   100                               105   110
Thr Ala Val Leu Ala Ser Ile Ser Thr Ser Leu Ala Glu Ile Leu Gly
   115                               120   125
Gly Ala Ile Ala Leu Glu Met Leu Leu Asp Ile Pro Ile Val Trp Gly
   130                               135   140
Ala Val Leu Thr Thr Val Phe Val Ser Ile Met Leu Phe Thr Asn Ser
   145                               150   155   160
Tyr Lys Lys Ile Glu Arg Ser Ile Ile Ala Phe Val Ser Val Ile Gly
                               165   170   175
Leu Ser Phe Ile Tyr Glu Leu Phe Leu Val Asp Ile Asp Trp Pro Met
   180                               185   190
Ala Val Glu Gly Trp Val Thr Pro Ala Ile Pro Lys Gly Ser Met Leu
   195                               200   205
Ile Ile Met Ser Val Leu Gly Ala Val Val Met Pro His Asn Leu Phe
   210                               215   220
Leu His Ser Glu Val Ile Gln Ser His Glu Tyr Asn Lys Gln Asp Thr
   225                               230   235   240
Ala Ser Ile Lys Lys Val Leu Lys Tyr Glu Leu Phe Asp Thr Leu Phe
   245                               250   255
Ser Met Ile Ile Gly Trp Ala Ile Asn Ser Ala Met Ile Leu Leu Ala
   260                               265   270
Ala Ala Thr Phe Phe Lys Ser Gly Ile Gln Val Glu Glu Leu Gln Gln
   275                               280   285
Ala Lys Ser Leu Leu Glu Pro Leu Leu Gly Ser Asn Ala Ala Ile Val
   290                               295   300
Phe Ala Leu Ala Leu Leu Met Ala Gly Ile Ser Ser Thr Ile Thr Ser
   305                               310   315   320
Gly Met Ala Ala Gly Ser Ile Phe Ala Gly Ile Phe Gly Glu Ser Tyr
   325                               330   335
His Ile Lys Asp Ser His Ser Gln Val Gly Val Ile Leu Ser Leu Gly
   340                               345   350
Ile Ala Leu Leu Leu Ile Phe Leu Ser Ala Asp Pro Phe Lys Gly Leu
   355                               360   365
Ile Ile Ser Gln Met Val Leu Ser Ile Gln Leu Pro Phe Thr Val Phe
   370                               375   380
Leu Gln Val Gly Leu Thr Ser Ser Arg Lys Val Met Gly Asp Tyr Val
   385                               390   395   400
Asn Ser Lys Trp Ser Thr Phe Val Leu Tyr Thr Ile Ala Val Ile Val
   405                               410   415
Thr Val Leu Asn Ile Met Leu Leu Phe Ser
   420                               425

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&lt;210&gt; 5808

&lt;211&gt; 95

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5808

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Met Asn Asp Lys Pro Ile Thr Asp Thr Lys Ala Met Met Glu Arg Ser
1           5           10           15

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Ile Phe Leu Tyr Glu Phe Val Lys Ser Met Met Glu Thr Lys Thr Val
      20      25      30
Val Arg Thr Ala Pro Gln Thr Ile Gly Met Ser Ser Asn Ile Ser Ser
      35      40      45
Ala Met Ala Pro Pro Arg Ile Ser Ala Ser Asp Val Glu Met Glu Ala
      50      55      60
Ser Thr Ala Val Pro Ser Met Gly Arg Asp Thr His Leu Gly Val Tyr
      65      70      75      80
Cys Val Ala Ala Ser Glu Arg Gln Ser Pro Val Thr Ile Pro Lys
      85      90      95

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&lt;210&gt; 5809

&lt;211&gt; 448

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5809

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Asn Cys Leu Asn Leu Ile Leu Tyr Ile Pro Ile Met Thr Val Leu Arg
1      5      10      15
Ser Met Lys Asp Phe Ser Ser Met Asn Ile Thr Ala Ser Ile Leu Leu
      20      25      30
Phe Val Thr Ala Ile Ala Ala Ala Val Ile Ala Asn Ser Pro Ala Ala
      35      40      45
Ser Val Tyr Gln Glu Phe Leu Ser His Glu Leu His Phe Arg Ile Gly
      50      55      60
Gly Phe Asn Leu Leu Ser His Ala Gly His Asn Leu Thr Met Ile Glu
      65      70      75      80
Phe Ile Asn Asp Gly Leu Met Thr Ile Phe Phe Leu Met Val Gly Leu
      85      90      95
Glu Ile Lys Arg Glu Leu Leu Val Gly Glu Leu Ser Ser Phe Arg Lys
      100      105      110
Ala Ala Leu Pro Phe Ile Ala Ala Cys Gly Gly Met Val Val Pro Val
      115      120      125
Val Ile Tyr Ser Met Val Cys Ala Pro Gly Thr Glu Gly Gly Gln Gly
      130      135      140
Leu Ala Ile Pro Met Ala Thr Asp Ile Ala Phe Ser Leu Gly Val Leu
      145      150      155      160
Ser Leu Leu Gly Lys Arg Val Pro Leu Ser Leu Lys Ile Phe Leu Thr
      165      170      175
Ala Phe Ala Val Val Asp Asp Ile Gly Gly Ile Leu Val Ile Ala Ile
      180      185      190
Phe Tyr Ser Ser His Val Ala Tyr Glu Tyr Leu Leu Trp Ala Ala Leu
      195      200      205
Leu Tyr Val Leu Leu Tyr Phe Ile Gly Lys Lys Gly Ala Thr Asn Lys
      210      215      220
Ile Phe Phe Leu Val Val Gly Val Val Ile Trp Tyr Leu Phe Leu Gln
      225      230      235      240
Ser Gly Ile His Ser Thr Ile Ser Gly Val Ile Leu Ala Phe Val Ile
      245      250      255
Pro Ala Lys Pro Gln Leu Asn Val Gly Thr Tyr Ile Glu Arg Ile Arg
      260      265      270
Arg Ile Ile Ser Thr Phe Pro Glu Met Gly Ala Asn Asn Ile Val Leu
      275      280      285
Thr Asn Gln Gln Ile Ala Lys Leu Lys Glu Val Glu Ser Ala Ser Asp
      290      295      300
Arg Val Ile Ser Pro Leu Gln Ser Leu Glu Asp Asn Leu His Gly Ala
      305      310      315      320
Val Asn Tyr Leu Val Leu Pro Leu Phe Ala Phe Val Asn Ala Gly Val
      325      330      335

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Met Phe Ser Gly Glu Gly Glu Val Ile Gly Gly Val Thr Leu Ala Val
      340      345      350
Ala Leu Gly Leu Leu Ala Gly Lys Phe Leu Gly Ile Tyr Ser Phe Thr
      355      360      365
Trp Leu Ala Val Lys Ser Gly Leu Thr Pro Met Pro Leu Gly Met Asn
      370      375      380
Trp Lys Asn Ile Ser Gly Val Ala Leu Leu Gly Gly Ile Gly Phe Thr
      385      390      395      400
Val Ser Leu Phe Ile Ala Asn Leu Ser Phe Gly Ser Ala His Pro Val
      405      410      415
Leu Leu Asn Gln Ala Lys Leu Gly Val Leu Ser Gly Thr Val Met Ala
      420      425      430
Gly Ile Leu Gly Tyr Leu Val Leu His Trp Val Leu Pro Lys Arg Arg
      435      440      445

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&lt;210&gt; 5810

&lt;211&gt; 337

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5810

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Pro Asn Leu Asn Ile Met Lys Tyr Phe Val Pro Leu Phe Leu Ser Leu
1      5      10      15
Phe Phe Leu Val Phe Met Ser Cys Gly Asn Glu Asp Asn Ala Trp Asp
      20      25      30
Asn Asn Ile Pro Ile Ile Thr Pro Asn Glu Gln Ser Asp Ser Ser Gly
      35      40      45
Leu Leu Lys Ser Gln Ile Thr Asp Ile Ile Asn Tyr Ser Lys Ile Asn
      50      55      60
Phe Asp Glu Asn Phe Asn Asn Thr Glu Leu Tyr Lys Asn Leu Ile Leu
65      70      75      80
Ser Pro Lys Trp Glu Asn Val Ser Met Val Leu Gln Lys Gln Asp Thr
      85      90      95
Leu His Leu Cys Val Pro Leu Leu Ala Gln Asp Asn Pro Glu His Asn
      100      105      110
Ser Tyr Tyr Leu Phe Ile Ser Asn Ile Lys Ser Ala Asn Ile Ile Arg
      115      120      125
Phe Thr Ile Ile Gly Leu Pro Glu Asn Phe Trp Asp Ile Ile Asn Ala
      130      135      140
Pro Ile Thr Arg Ala Gly Ile Ile Asp Ala Gly Trp Ile Pro Glu Val
145      150      155      160
Thr Ile Leu Gly Asp Leu Cys Arg Gln Met Ser His Ile Cys Ser Asp
      165      170      175
Pro Tyr Asp Glu Ala Phe Leu Glu Phe Leu His Ser Lys Trp Leu Lys
      180      185      190
Glu His Gly Asn Glu Ser Ser Ser Asp Ser Ser Ser Ser Gly Gly Asp
      195      200      205
Tyr Ser Arg Leu Thr Glu Ala Glu Lys Arg Phe Leu Met Arg His Pro
      210      215      220
Gln Val Ile Lys Lys Phe His Asp Asn Ala Arg Lys Ala Ser Glu Ala
225      230      235      240
Ala Lys Lys Phe Pro Gly Gln His Asn Gly Glu Gly Asp Ala Val Arg
      245      250      255
His Val Tyr Trp Ser Ala Leu Asn Thr Leu Ser Glu Asn Ala Asn Leu
      260      265      270
Ala Lys Glu Phe Gly Asp Ala His Glu Gln Asn Pro Gly Gln Asp Ile
      275      280      285
Ala Glu Lys Asn Met Asp Leu Phe Asn Asn Ser Ile Gly Tyr Gln Leu
      290      295      300

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Gly Asp Leu Ala Lys Gln Asn Lys Trp Ser Glu Glu Arg Leu Phe Lys  
 305 310 315 320  
 Glu Ile Ile Lys Tyr Lys Asn Asp Gly Lys Leu Gln Thr Lys Leu His  
 325 330 335  
 Pro

<210> 5811  
 <211> 142  
 <212> PRT  
 <213> B.fragilis

<400> 5811  
 Ile Leu Ser Asn Arg Asn Thr Phe Asp Pro Thr Tyr Leu Trp Gly Asp  
 1 5 10 15  
 Asn Leu Ser Ile Asn Pro Leu Asn His Ile Arg Met Lys Gln Lys Lys  
 20 25 30  
 Arg Pro Ala Ser Gln Thr Glu Ala Met Lys Leu Arg Trp Lys Lys Arg  
 35 40 45  
 Ile Val Phe Glu Lys Gly Tyr Thr Glu Met Cys Ala Glu Trp Met Ala  
 50 55 60  
 Glu Arg Leu Glu Ala Leu Thr Asp His Leu Gln Tyr Gly His Ala Ala  
 65 70 75 80  
 Ile Ala Tyr Gln Lys Gln Asn Gly Asp Phe Arg Leu Val Lys Ala Thr  
 85 90 95  
 Leu Ile Tyr Tyr Glu Ala Glu Phe His Lys Lys Tyr Asp Pro Thr Lys  
 100 105 110  
 Ile Glu Gly Ala Val Val Tyr Trp Asn Val Asp Glu Gln Arg Trp Thr  
 115 120 125  
 Thr Phe Gln Val Glu Asn Phe Met Glu Trp Arg Pro Ile Val  
 130 135 140

<210> 5812  
 <211> 827  
 <212> PRT  
 <213> B.fragilis

<400> 5812  
 Lys His Lys Lys Leu Asn Asp Met Asn Ile Ser Tyr Asn Trp Leu Lys  
 1 5 10 15  
 Glu Tyr Val Asn Phe Asp Leu Thr Pro Asp Glu Val Ala Ala Ala Leu  
 20 25 30  
 Thr Ser Ile Gly Leu Glu Thr Gly Gly Val Glu Glu Val Gln Thr Ile  
 35 40 45  
 Lys Gly Gly Leu Glu Gly Leu Val Ile Gly Glu Val Leu Thr Cys Val  
 50 55 60  
 Glu His Pro Asn Ser Asp His Leu His Ile Thr Thr Val Asn Leu Gly  
 65 70 75 80  
 Asn Gly Glu Pro Thr Gln Ile Val Cys Gly Ala Pro Asn Val Ala Ala  
 85 90 95  
 Gly Gln Lys Val Val Val Ala Thr Leu Gly Thr Lys Leu Tyr Asp Gly  
 100 105 110  
 Asp Glu Cys Phe Thr Ile Lys Lys Ser Lys Ile Arg Gly Val Glu Ser  
 115 120 125  
 Ile Gly Met Ile Cys Ala Glu Asp Glu Ile Gly Ile Gly Thr Ser His  
 130 135 140  
 Asp Gly Ile Ile Val Leu Pro Glu Asp Ala Val Pro Gly Thr Leu Ala  
 145 150 155 160  
 Lys Asp Tyr Tyr Asn Val Lys Ser Asp Tyr Val Leu Glu Val Asp Ile

				165					170					175			
Thr	Pro	Asn	Arg	Ala	Asp	Ala	Cys	Ser	His	Tyr	Gly	Val	Ala	Arg	Asp		
			180					185					190				
Leu	Tyr	Ala	Tyr	Leu	Val	Gln	Asn	Gly	Lys	Gln	Ala	Ala	Leu	Thr	Arg		
		195					200					205					
Pro	Ser	Val	Asp	Ala	Phe	Ala	Val	Glu	Asn	His	Asp	Leu	Asp	Ile	Lys		
	210					215					220						
Val	Thr	Val	Glu	Asn	Ser	Glu	Ala	Cys	Pro	Arg	Tyr	Ala	Gly	Val	Thr		
225					230					235					240		
Val	Lys	Gly	Val	Thr	Val	Lys	Glu	Ser	Pro	Glu	Trp	Leu	Gln	Asn	Lys		
				245					250					255			
Leu	Arg	Ile	Ile	Gly	Leu	Arg	Pro	Ile	Asn	Asn	Val	Val	Asp	Ile	Thr		
			260					265					270				
Asn	Tyr	Ile	Val	His	Ala	Phe	Gly	Gln	Pro	Leu	His	Cys	Phe	Asp	Ala		
		275					280					285					
Asn	Lys	Ile	Lys	Gly	Gly	Glu	Val	Ile	Val	Lys	Thr	Met	Pro	Glu	Gly		
	290					295					300						
Thr	Thr	Phe	Val	Thr	Leu	Asp	Gly	Val	Glu	Arg	Lys	Leu	Asn	Glu	Arg		
305					310					315					320		
Asp	Leu	Met	Ile	Cys	Asn	Lys	Glu	Asp	Ala	Met	Cys	Ile	Ala	Gly	Val		
				325					330					335			
Phe	Gly	Gly	Leu	Asp	Ser	Gly	Ser	Thr	Glu	Ala	Thr	Thr	Asp	Val	Phe		
			340					345					350				
Leu	Glu	Ser	Ala	Tyr	Phe	His	Pro	Thr	Trp	Val	Arg	Lys	Thr	Ala	Arg		
		355					360					365					
Arg	His	Gly	Leu	Asn	Thr	Asp	Ala	Ser	Phe	Arg	Phe	Glu	Arg	Gly	Ile		
	370					375					380						
Asp	Pro	Asn	Ile	Thr	Ile	Tyr	Cys	Leu	Lys	Leu	Ala	Ala	Met	Met	Val		
385					390					395					400		
Lys	Glu	Leu	Ala	Gly	Gly	Thr	Ile	Ser	Ser	Glu	Ile	Lys	Asp	Val	Cys		
				405					410					415			
Ala	Ala	Pro	Ala	Gln	Asp	Phe	Ile	Val	Glu	Leu	Thr	Tyr	Glu	Lys	Val		
			420					425					430				
His	Ser	Leu	Ile	Gly	Lys	Val	Ile	Pro	Val	Glu	Thr	Ile	Lys	Ser	Ile		
		435					440					445					
Val	Thr	Ser	Leu	Glu	Met	Lys	Ile	Met	Asp	Glu	Thr	Ala	Glu	Gly	Leu		
	450					455				460							
Thr	Leu	Ala	Val	Pro	Pro	Tyr	Arg	Val	Asp	Val	Gln	Arg	Asp	Cys	Asp		
465					470				475					480			
Val	Ile	Glu	Asp	Ile	Leu	Arg	Ile	Tyr	Gly	Tyr	Asn	Asn	Val	Glu	Ile		
				485					490					495			
Pro	Ser	Thr	Leu	Lys	Ser	Ser	Leu	Thr	Thr	Lys	Gly	Asp	Cys	Asp	Lys		
			500					505									

Asn Thr Ser Val Tyr Glu Leu Lys Ala Tyr Val Glu Asn Ile Phe Lys  
                   645                  650                  655  
 Arg Leu Gly Leu Asp Leu His Ser Leu Val Val Gly Asn Leu Ser Asp  
                   660                  665                  670  
 Asp Ile Tyr Ser Thr Ala Leu Thr Val Asn Thr Lys Gly Gly Lys Arg  
                   675                  680                  685  
 Leu Ala Thr Phe Gly Val Val Thr Lys Lys Met Leu Lys Ala Phe Asp  
                   690                  695                  700  
 Val Asp Asn Glu Val Tyr Tyr Ala Asp Leu Asn Trp Lys Glu Leu Met  
                   705                  710                  715                  720  
 Lys Ala Ile Arg Ser Val Lys Val Ser Tyr Lys Glu Ile Ser Lys Phe  
                   725                  730                  735  
 Pro Ala Val Lys Arg Asp Leu Ala Leu Leu Leu Asp Lys Lys Val Gln  
                   740                  745                  750  
 Phe Ala Glu Ile Glu Lys Ile Ala Tyr Glu Thr Glu Lys Lys Leu Leu  
                   755                  760                  765  
 Lys Glu Val Ser Leu Phe Asp Val Tyr Glu Gly Lys Asn Leu Glu Ala  
                   770                  775                  780  
 Gly Lys Lys Ser Tyr Ala Val Ser Phe Leu Leu Gln Asp Glu Ser Gln  
                   785                  790                  795                  800  
 Thr Leu Asn Asp Lys Met Ile Asp Lys Ile Met Ser Lys Leu Val Lys  
                   805                  810                  815  
 Asn Leu Glu Asp Lys Leu Gly Ala Lys Leu Arg  
                   820                  825

<210> 5813  
 <211> 63  
 <212> PRT  
 <213> B.fragilis

<400> 5813  
 Ser His Lys Asn Arg Arg Arg Ser Ser Leu Leu Glu Cys Gly Arg Thr  
 1                  5                  10                  15  
 Ala Met Asp Asp Ile Pro Gly Gly Glu Leu His Gly Val Glu Thr Asp  
                   20                  25                  30  
 Arg Ile Gly Arg His His Arg Leu His Gly Phe Ser Gln Met Asn Asp  
                   35                  40                  45  
 Phe Tyr Phe Glu Glu Ser Ser Glu Asp Ile Phe Gly Asn Pro Gly  
                   50                  55                  60

<210> 5814  
 <211> 192  
 <212> PRT  
 <213> B.fragilis

<400> 5814  
 Asn Val Lys Asn Lys Leu Met Glu His Ile Ile His Leu Leu Ile Gly  
 1                  5                  10                  15  
 Phe Ile Val Leu Ser Phe Leu Leu Lys Thr Gly Phe Tyr Pro Arg Trp  
                   20                  25                  30  
 Gly Ile Trp Leu Ser Ala Leu Val Tyr Thr Val Phe Leu Ile Cys Ile  
                   35                  40                  45  
 Gly Pro Trp Ala Thr Glu Gln Ser Pro Thr Glu Ile Asn Ser Leu Leu  
                   50                  55                  60  
 Ala Ser Ala Pro His Ile Leu Thr Leu Ser Val Tyr Val Thr Leu Glu  
                   65                  70                  75                  80  
 Ala Ser Ile Met Ile Ala Phe Cys Phe Asn Cys Phe Ala Asp Thr Ser  
                   85                  90                  95  
 Lys Gln Arg Thr Leu Phe Gln Arg Thr Val Thr Tyr Ile Leu Asn Phe



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      100      105      110
Tyr Pro Gly Leu Leu Met Ala Gly Ile Leu Thr Tyr Leu Leu Ile Gln
      115      120      125
Leu Phe Phe Ala Phe Pro Gly Val Ser Phe Gly Leu Ile Thr Gly Ile
      130      135      140
Ser Ser Val Ala Val Phe Ile Leu Ile Ser Gly Leu Ser Leu Leu Leu
145      150      155      160
Lys Asn Ile Val Gly Glu Arg Lys Leu Arg Leu Glu Ile Leu Phe Ile
      165      170      175
Thr Asn Leu Phe Ile Val Leu Leu Ser Val Val Ser Thr Gly Asn Asn
      180      185      190

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&lt;210&gt; 5815

&lt;211&gt; 240

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5815

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Glu Asn Gly Asn Tyr Asp Leu Lys Tyr Ser Ser Ser Pro Ile Cys Leu
1      5      10      15
Ser Tyr Cys Leu Val Ser Leu Ala Gln Glu Thr Thr Lys Glu Ile Thr
      20      25      30
Ile Ile Asn Met Glu Thr Ile Ser Asn Ala Leu Phe Trp Ile Ser Asn
      35      40      45
Gly Leu Leu Val Pro Val Val Val Leu Leu Leu Leu Phe Phe Ala Arg
      50      55      60
Ala Val Leu Leu Ala Gly Gly Phe Phe Gly Glu Phe Tyr Arg Arg Val
65      70      75      80
His Thr Gln Lys Ser Leu Ala Glu Gln Leu Glu Glu Leu Thr Pro Asp
      85      90      95
Asn Ile Glu Glu Lys Ala Asn Ser Leu Thr Gly Asp Arg Ser Thr Pro
      100      105      110
Leu Gln Arg Cys Val Tyr Lys Leu Tyr Thr His Arg Asp Asn Ala Ala
      115      120      125
Tyr Cys Glu Arg Leu Leu Ala Asn Phe Glu Val Asp Ala Glu Gln Glu
      130      135      140
Leu Gly Arg Ser Arg Thr Phe Val Lys Leu Gly Pro Met Leu Gly Leu
145      150      155      160
Met Gly Thr Leu Ile Pro Met Gly Pro Ala Leu Val Gly Leu Ala Thr
      165      170      175
Gly Asp Ile Ala Ser Met Ala Tyr Asn Met Gln Val Ala Phe Ala Thr
      180      185      190
Thr Val Val Gly Met Val Ile Ala Ala Ile Gly Val Val Thr Leu Gln
      195      200      205
Ile Arg Gln Arg Trp Tyr Ala Arg Glu Ile Asn Asp Leu Glu Phe Ile
      210      215      220
Ser Lys Thr Leu Ile His Gly Thr Lys Gln Thr Ser Thr Gln Pro Glu
225      230      235      240

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&lt;210&gt; 5816

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5816

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Cys Cys Leu Asn Leu Asn Lys Lys Met Asn Met Lys Arg Ile Lys Arg
1      5      10      15
Thr Pro Ala Glu Lys Ala Arg Ala Gln Tyr Thr Gly Tyr Leu Val Lys
      20      25      30

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Glu Pro Met Glu Leu Met Asp Phe Leu Ala Ala Lys Met Pro Asp Ala  
 35 40 45  
 Ser Arg Thr Lys Leu Lys Ser Leu Leu Ser Lys Arg Ile Val Leu Val  
 50 55 60  
 Asp Asn Val Ile Thr Thr Gln Phe Asn Phe Pro Leu Gln Pro Gly Met  
 65 70 75 80  
 Lys Val Leu Ile Ser Lys Asp Lys Asn Lys Lys Glu Phe Arg His Pro  
 85 90 95  
 Leu Leu Lys Ile Val Tyr Glu Asp Ala Tyr Ile Ile Val Val Glu Lys  
 100 105 110  
 Lys Glu Gly Leu Leu Ser Val Gly Thr Glu Arg Gln Lys Glu Arg Thr  
 115 120 125  
 Ala Gln His Ile Leu Ser Glu Tyr Val Gly Arg Ser Gly Arg Gly Asn  
 130 135 140  
 Arg Ile Tyr Val Val His Arg Leu Asp Arg Asp Thr Ser Gly Leu Met  
 145 150 155 160  
 Met Phe Ala Lys Asp Glu Lys Thr Gln Tyr Thr Leu Arg Asp His Trp  
 165 170 175  
 His Asp Ile Val Thr Asp Arg Arg Tyr Val Ala Val Val Thr Gly Glu  
 180 185 190  
 Met Glu Lys Asp Ser Asp Thr Val Val Ser Trp Leu Thr Asp Arg Thr  
 195 200 205  
 Leu Tyr Val Ser Ser Ser Ser Tyr Asp Asp Gly Gly Ser Lys Ser Ile  
 210 215 220  
 Thr His Tyr Arg Thr Ile Lys Arg Ala Asn Gly Tyr Ser Leu Val Glu  
 225 230 235 240  
 Leu Arg Leu Glu Thr Gly Arg Lys Asn Gln Ile Arg Val His Met Gln  
 245 250 255  
 Asp Leu Gly His Pro Leu Ile Gly Asp Gly Arg Tyr Gly Ile Asp Gly  
 260 265 270  
 Gly Pro Asn Pro Leu Gly Arg Leu Ala Leu His Ala Phe Lys Leu Cys  
 275 280 285  
 Phe Tyr His Pro Val Thr Asp Gln Leu Met Glu Phe Glu Thr Pro Tyr  
 290 295 300  
 Pro Pro Thr Phe Lys Lys Leu Phe Leu Lys Lys  
 305 310 315

&lt;210&gt; 5817

&lt;211&gt; 601

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5817

Lys Tyr Met Lys Thr Ala Ile Ile Val Ile Ser Glu Ala Gly Ile Ala  
 1 5 10 15  
 Leu Ala Lys Thr Leu Glu Gln Glu Leu Pro Glu Ser Glu Ile Phe Ser  
 20 25 30  
 Thr Gly Thr Asp Thr Asp Cys His Ser Ile Ser Asn Leu Gln Glu Ala  
 35 40 45  
 Val Pro Glu Ile Phe His Lys Phe Asp Ala Ile Ile Phe Ile Gly Ala  
 50 55 60  
 Met Gly Ile Cys Ile Arg Ala Ile Ala Pro His Ile Glu Asp Lys His  
 65 70 75 80  
 Lys Asp Pro Ala Val Val Cys Val Asp Ser Thr Gly Arg Tyr Ala Val  
 85 90 95  
 Ser Val Leu Ser Gly His Ile Gly Gly Ala Asn Gly Leu Thr Arg Tyr  
 100 105 110  
 Val Ala Ser Ile Leu Gly Ala Glu Pro Val Ile Thr Thr Arg Ser Asp  
 115 120 125

Arg	Thr	Gly	Leu	Trp	Ala	Leu	Asp	Thr	Leu	Gly	Lys	Lys	Tyr	Gly	Trp
130						135					140				
Gln	Thr	Val	Pro	Ala	Glu	Ser	Ser	Asp	Met	Asn	His	Leu	Ile	Thr	Leu
145					150					155					160
Phe	Val	Asp	Cys	Lys	Pro	Thr	Ala	Leu	Leu	Leu	Asp	Ile	Arg	Asp	Glu
				165					170						175
Gly	Thr	Thr	Gln	Leu	Glu	His	Thr	Leu	Pro	Pro	His	Val	Asp	Val	Phe
			180					185					190		
Tyr	Lys	Phe	Glu	Asp	Met	Asp	Leu	Arg	Lys	Tyr	Asp	Leu	Leu	Leu	Leu
		195					200					205			
Val	Thr	Pro	Phe	Ile	Tyr	Asn	Thr	Ser	Asp	Thr	Pro	Ala	Leu	Tyr	Tyr
	210					215						220			
Val	Pro	Pro	Val	Leu	His	Met	Gly	Val	Gly	Leu	Ala	Arg	Asp	Ala	His
225					230					235					240
Pro	Val	Asp	Thr	Val	Ile	Thr	His	Leu	Met	Asp	Val	Val	Val	Gln	Ala
				245					250					255	
Asn	Met	Ile	Pro	Leu	Ala	Ile	Arg	Thr	Val	Ser	Ser	Ile	Glu	Glu	Lys
			260					265					270		
Lys	Asp	Glu	Pro	Val	Leu	Lys	Leu	Leu	Ala	Glu	Ala	Tyr	Gln	Thr	Arg
		275					280					285			
Leu	Tyr	Thr	Ala	Ser	Gln	Leu	Ser	Lys	Ile	Glu	Val	Pro	Thr	Pro	Ser
	290					295					300				
Glu	Val	Val	Asn	Lys	His	Met	Gly	Thr	Pro	Ser	Val	Ser	Glu	Ala	Ser
305					310					315					320
Ala	Leu	Leu	Ser	Ser	Gly	Gly	Gly	Pro	Leu	Leu	Leu	Pro	Lys	Gln	Lys
				325					330					335	
Gly	Ala	Asn	Phe	Thr	Val	Ala	Ile	Ala	Met	Asp	Ala	Ala	Ser	Val	Arg
			340					345					350		
Gln	Gly	His	Ile	Glu	Ile	Val	Gly	Ala	Gly	Pro	Gly	Asp	Pro	Glu	Leu
		355					360					365			
Ile	Ser	Val	Arg	Gly	Arg	Arg	Phe	Leu	Glu	Glu	Ala	Asp	Leu	Ile	Leu
	370					375					380				
Tyr	Ala	Gly	Ser	Leu	Val	Pro	Arg	Glu	Leu	Thr	Glu	Cys	Ala	Lys	Ala
385					390					395					400
Gly	Ala	Thr	Ile	Arg	Ser	Ser	Ala	Ser	Met	Thr	Leu	Glu	Glu	Gln	Phe
			405						410					415	
Ala	Leu	Met	Lys	Glu	Phe	Tyr	Asp	Arg	Gly	Gln	Leu	Val	Val	Arg	Leu
			420					425					430		
His	Thr	Gly	Asp	Pro	Cys	Ile	Tyr	Gly	Ala	Ile	Gln	Glu	Gln	Met	Asn
		435					440					445			
Phe	Phe	Asp	Gln	Tyr	Gly	Met	His	Tyr	His	Ile	Thr	Pro	Gly	Ile	Ser
	450					455					460				
Ser	Phe	Gln	Ala	Ala	Ala	Ala	Ala	Leu	Gln	Ser	Gln	Phe	Thr	Ile	Pro
465					470					475					480
Glu	Arg														

595

600

<210> 5818  
 <211> 162  
 <212> PRT  
 <213> B.fragilis

<400> 5818  
 Gln Asp Met Asn Tyr Leu Glu Ser Glu Ile Ser Ala Leu Tyr Ala Ser  
 1 5 10 15  
 Ala His Glu Leu Cys Tyr Leu Gly Met Asp Gly Arg Pro Ile Tyr Ser  
 20 25 30  
 Asp Gln Phe Thr Arg Leu Asn Arg Asp Val Phe Ser Gln Ala Asn Ala  
 35 40 45  
 Leu Tyr Asp Lys His Gly Asp Ser Asp Glu Glu Glu Ala Arg Leu Cys  
 50 55 60  
 Leu Ser Leu Leu Met Gly Tyr Asn Ala Thr Leu Tyr Asn Asn Gly Asp  
 65 70 75 80  
 Lys Glu Glu Arg Ile Gln His Ile Leu Asp Arg Cys Trp Asp Val Leu  
 85 90 95  
 Glu His Leu Pro Ala Ser Leu Leu Lys Val Gln Leu Leu Val Tyr Cys  
 100 105 110  
 Tyr Gly Glu Val Phe Asp Glu Glu Leu Ala Arg Glu Ala Gln Ala Ile  
 115 120 125  
 Ile Asp Thr Trp Gln Asp Arg Glu Leu Ser Glu Asp Glu Arg Glu Val  
 130 135 140  
 Met Glu Arg Leu Lys Asp Val Gln Glu Asn Pro Tyr Pro Trp Ser Glu  
 145 150 155 160  
 Val Glu

<210> 5819  
 <211> 136  
 <212> PRT  
 <213> B.fragilis

<400> 5819  
 Glu Glu Met Lys Gly Tyr Trp Lys Ile Leu Leu Ile Leu Met Leu Ala  
 1 5 10 15  
 Val Gly Phe Ala Ser Cys Glu Asp Asp Gln Gly Glu Ile Glu Tyr Val  
 20 25 30  
 Ile Thr Gly Arg Ala Trp Thr Gly Asp Val Gly Met Asn Ala His Asn  
 35 40 45  
 Gly Glu Pro Leu Phe Ser Thr Phe Glu Phe Gly Asn Asp Gly Phe Gly  
 50 55 60  
 Val Glu Thr Gln Phe Tyr Ala Ser Asp Gly Leu Leu Tyr Asp Gln Phe  
 65 70 75 80  
 Arg Phe Gln Trp Tyr Trp Glu Asp Ser Tyr Asn Arg Asn Leu Val Leu  
 85 90 95  
 Asn Tyr Gly Lys Asn Gly Ile Ser Tyr Met Asp Asp Val Arg Ile Tyr  
 100 105 110  
 Gly Asp Arg Ile Thr Gly Ala Phe Tyr Leu Ser Asp Asp Ala Arg Gly  
 115 120 125  
 Phe Asn Phe Glu Leu Arg Met Glu  
 130 135

<210> 5820  
 <211> 1326  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5820

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Asp Ile Ser Asn Glu Asn Ala Glu Arg Lys Gln Glu Asp Asn Met Lys
1      5      10      15
Val Leu Thr Leu Phe Arg His Lys Arg Thr Leu Tyr Ile Ala Gly Ser
20      25      30
Val Leu Leu Leu Ala Ile Ala Phe Thr Ile Gly Tyr Arg Tyr Trp Met
35      40      45
Ala Pro Thr Arg Ile Leu Ile Val Asn Pro Leu Pro Ala Gln Ala Ala
50      55      60
Asp Ile Val Leu Asn Asn Asp Ser Arg Asn Ile Glu Val Thr Cys Ile
65      70      75      80
Gln Thr Glu Asn Leu Glu Ser Phe Lys Gly Tyr Asp Ala Val Val Leu
85      90      95
Tyr Gly Arg Ser Leu Asn Leu Asn Asp Arg Gln Met Lys Glu Ala Glu
100     105     110
Arg Ala Ala Ser Ala Gly Ile Pro Leu Phe Thr Ile Ser Leu Arg Asn
115     120     125
Phe Asn Thr Ile Ile Asn Arg Asn Ile Thr Pro Glu Gln Glu Ala Met
130     135     140
Leu Met Gln Tyr Phe Gly Asp Ala Cys Arg Gln Asn Tyr Arg Asn Gly
145     150     155     160
Leu Arg Tyr Leu Arg His Ile Ala Thr Pro Thr Arg Trp Asn Ile Glu
165     170     175
Thr Phe Asp Ala Pro Leu Arg Leu Pro Asn Asn Leu Phe Tyr His Gln
180     185     190
Glu Tyr Gly Lys Tyr Phe Glu Thr Gln Lys Ala Leu Glu Gln Tyr Leu
195     200     205
Arg Gln Lys Gly Ile Phe His Glu Asn Gly Pro Lys Ile Ala Phe Ile
210     215     220
Ser Gly Val Ser Phe Pro Met Glu Gly Asn Arg Ala His Val Asp Thr
225     230     235     240
Leu Ile Ser Lys Met Thr Gln Ala Gly Phe Asn Val Tyr Pro Ile Ala
245     250     255
Gly Lys Glu Lys Arg Glu Glu Met Leu Arg Ser Leu His Pro Asp Ala
260     265     270
Leu Val Tyr Leu Pro Met Gly Arg Leu Gly Asp Asp Ser Leu Ile Asn
275     280     285
Trp Leu His Thr Glu Asn Ile Pro Ile Phe Asn Pro Phe Pro Leu Ile
290     295     300
Gln Ser Arg Glu Glu Trp Leu Asp Pro Met Lys Pro Val Ser Gly Gly
305     310     315     320
Thr Leu Thr Ala Arg Val Leu Val Pro Glu Ile Asp Gly Gly Met Thr
325     330     335
Pro Leu Leu Ile Ala Thr Gln Asn Leu His Lys Ser Gly Tyr Tyr Leu
340     345     350
His Glu Pro Glu Met Glu Arg Val Asp Asn Phe Ile Ser His Val His
355     360     365
Lys Tyr Leu Asp Leu Arg Thr Lys Pro Asn Ser Asp Lys Arg Ile Ala
370     375     380
Ile Cys Tyr Phe Lys Thr Pro Gly Lys Asp Ala Leu Leu Ala Ser Gly
385     390     395     400
Met Glu Val Ile Pro Ser Leu Tyr Asn Phe Leu Lys Arg Leu Arg Thr
405     410     415
Glu Gly Tyr Asp Val Ser Gly Leu Pro Ala Thr Val Glu Glu Phe Gly
420     425     430
Lys Gln Ile Tyr Arg Asp Gly Ala Val Met Gly Ser Tyr Ala Thr Gly
435     440     445

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Ala	Gln	Glu	Lys	Phe	Leu	Gln	Thr	Ala	His	Pro	Val	Trp	Leu	Thr	Lys
450						455					460				
Thr	Gln	Tyr	Glu	Lys	Trp	Val	His	Glu	Val	Ile	Glu	Pro	Asp	Lys	Tyr
465					470					475					480
Lys	Glu	Val	Thr	Glu	Arg	Tyr	Gly	Asp	Ala	Pro	Gly	His	Leu	Leu	Thr
				485					490					495	
Gly	Thr	Asn	Pro	Gln	Gly	Glu	Ala	Gln	Leu	Ala	Ile	Ala	Cys	Leu	Arg
			500					505					510		
Phe	Gly	Asn	Ile	Leu	Leu	Phe	Pro	Gln	Pro	Arg	Pro	Ala	Leu	Gly	Asp
		515					520					525			
Asp	Asp	Phe	Lys	Leu	Val	His	Gly	Met	Pro	Val	Ala	Pro	Pro	His	Ser
	530					535					540				
Tyr	Leu	Ala	Pro	Tyr	Leu	Tyr	Val	Gln	Lys	Gly	Phe	Gln	Ala	Asp	Ala
545					550					555					560
Leu	Ile	His	Phe	Gly	Thr	His	Gly	Asn	Leu	Glu	Tyr	Thr	Pro	Gly	Lys
				565					570					575	
Asn	Val	Ala	Leu	Ser	His	Asn	Asp	Trp	Ala	Asp	Ala	Leu	Val	Gly	Asp
			580					585					590		
Leu	Pro	His	Phe	Tyr	Tyr	Tyr	Thr	Thr	Gly	Asn	Val	Gly	Glu	Gly	Ile
		595					600					605			
Ile	Ala	Lys	Arg	Arg	Thr	His	Ala	Val	Leu	Val	Thr	His	Leu	Thr	Pro
	610					615					620				
Pro	Tyr	Val	Glu	Ser	Gly	Met	Arg	Gln	Arg	Tyr	Thr	Ser	Leu	Leu	Glu
625					630					635					640
Asp	Ile	His	Lys	Ile	Leu	Ser	Glu	Asp	Ile	Glu	Lys	Asn	Arg	Thr	Leu
				645					650					655	
Gly	Ile	Arg	Ile	Lys	Lys	Glu	Val	Ile	Lys	Leu	Gly	Leu	His	Arg	Asp
			660					665					670		
Leu	Lys	Leu	Asp	Ser	Val	Ser	Ser	Arg	Pro	Tyr	Thr	Ala	Glu	Glu	Leu
		675					680					685			
Glu	Arg	Ile	Asp	Leu	Phe	Ala	Glu	Glu	Ile	Ala	Asn	Glu	Lys	Thr	Ile
	690					695					700				
Gly	Ala	Tyr	Tyr	Thr	Leu	Gly	Glu	Thr	Tyr	Ser	Ala	Arg	Asp	Leu	Leu
705					710					715					720
Thr	Thr	Thr	Leu	Ala	Val	Ser	Ala	Asp	Pro	Leu	Ala	Tyr	Gln	Met	Ala
				725					730					735	
Lys	Arg	Asp	Arg	Asp	Lys	Gly	Lys	Ile	Thr	Thr	Glu	Gln	Leu	Gln	Asp
		740						745					750		
Phe	Gly	Tyr	Ile	Thr	His	His	Tyr	Leu	Pro	Ile	Ala	Lys	Gln	Arg	Leu
		755					760					765			
Ile	Pro	Leu	Leu	Gln	Asn	Pro	Pro	Lys	Asp	Thr	Thr	Gly	Ile	Ala	Pro
	770					775						780			
Glu	Leu	Gln	Glu	Ala	Leu	Arg	Tyr	His	Ala	Leu	Leu	Val	Ser	Ser	Thr
785					790					795					800
Gly	Asn	Glu	Leu	Asn	Ala	Met	Leu	Arg	Gly	Leu	Lys	Gly	Gly	Thr	Val
				805					810					815	
Phe	Pro	Ala	Pro	Gly	Gly	Asp	Pro	Val	Leu	Asn	Pro	Asn	Val	Leu	Pro
		820						825					830		
Thr	Gly	Arg	Asn	Met	Tyr	Ser	Ile	Asn	Val	Glu	Thr	Thr	Pro	Gly	Ile
		835					840					845			
Leu	Ser	Trp	Glu	Glu	Gly	Lys	Arg	Leu	Ala	Glu	Ala	Thr	Leu	Lys	Ala
	850					855					860				
Tyr	Arg	Glu	Asn	His	Ser	Gly	Lys	Tyr	Pro	Arg	Lys	Val	Ser	Tyr	Ser
865					870					875					880
Phe	Trp	Ala	Gly	Glu	Phe	Ile	Thr	Thr	Glu	Gly	Ala	Thr	Leu	Ala	Gln
				885					890					895	
Val	Phe	Trp	Met	Leu	Gly	Val	Glu	Pro	Val	Arg	Asp	Lys	Met	Gly	Arg
			900					905					910		
Val	Val	Asp	Leu	Arg	Leu	Val	Pro	Ser	Ser	Glu	Leu	Gly	Arg	Pro	Arg

915	920	925
Val Asn Val Val Val Gln Val Ser Gly Gln Leu Arg Asp Ile Ala Gly		
930	935	940
Ser Arg Leu Thr Met Leu Thr Asp Ala Val Arg Leu Val Ser Ala Ala		
945	950	955
Asp Asp Lys Ala Tyr Pro Asn Tyr Val Ser Ser Gly Thr Arg Leu Gln		
965	970	975
Glu Lys Leu Leu Val Glu Lys Gly Val Ser Pro Lys Arg Ala Arg Glu		
980	985	990
Met Ser Val Met Arg Val Phe Gly Pro Val Asn Ser Gly Tyr Ser Thr		
995	1000	1005
Gly Met Met Ala Tyr Thr Glu Lys Ser Asp Arg Trp Asp His Glu Ser		
1010	1015	1020
Glu Leu Val Asp Gly Tyr Leu Asn Asn Met Gly Ala Ala Tyr Gly Asp		
1025	1030	1035
Glu Glu Asp Trp Gly Gly Met Gln Lys Asp Leu Phe Ala Ser Ala Leu		
1045	1050	1055
Ser Glu Thr Asp Val Val Ile Gln Pro Arg Gln Ser Asn Thr Trp Gly		
1060	1065	1070
Pro Leu Ser Leu Asp His Val Tyr Glu Phe Met Gly Gly Leu Ser Leu		
1075	1080	1085
Thr Val Lys Thr Leu Thr Gly Lys Glu Pro Asp Ala Leu Met Ala Asp		
1090	1095	1100
Tyr Arg Asn Arg Asn Asn Lys Arg Met Gln Asn Ile Asn Glu Ala Ile		
1105	1110	1115
Ala Val Glu Ala Arg Ala Thr Val Leu Asn Pro Thr Phe Val Lys Glu		
1125	1130	1135
Arg Met Lys Gly Gly Ala Thr Thr Ala Gln Met Phe Gly Glu Ile Phe		
1140	1145	1150
Arg Asn Ile Phe Gly Trp His Ala Thr Arg Pro Ser Ala Met Asp Lys		
1155	1160	1165
Glu Ile Phe Asn Asp Leu Tyr Lys Met Tyr Ile Val Asp Glu Asn His		
1170	1175	1180
Leu Gly Ile Arg Asp Tyr Phe Gln Arg Ile Asn Pro Ala Ser Tyr Gln		
1185	1190	1195
Ala Met Thr Ser Val Met Leu Glu Ser Ala Arg Lys Gly Tyr Trp Lys		
1205	1210	1215
Ala Ser Asp Glu Gln Leu Lys Val Thr Ala Arg Leu His Ala Gln Ile		
1220	1225	1230
Thr Arg Glu Ala Gly Ala Ala Cys Thr Glu Phe Val Cys Asp Asn Arg		
1235	1240	1245
Lys Leu Gln Gln Phe Val Glu Gly His Leu Asp Asn Asn Asp Ser Glu		
1250	1255	1260
Ser Tyr Arg Leu Val Met Gln Glu Val His Gln Ala Gly Asn Glu Lys		
1265	1270	1275
Gly Lys Asp Ile Val Leu Lys Glu Glu Lys Leu Thr Lys Thr Glu Asn		
1285	1290	1295
Arg Lys Lys Asn Val Val Asn Gly Ile Leu Thr Gly Val Ile Val Leu		
1300	1305	1310
Leu Ala Phe Gly Gly Val Ile Tyr Leu Leu Lys Arg Lys Lys		
1315	1320	1325

&lt;210&gt; 5821

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5821

Leu Val Ala Asp Lys Asp Thr Phe Leu Ile Phe Leu Gln Glu Ile Lys

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1           5           10           15
Lys Tyr Lys Met Thr Lys Glu Glu Arg Ile Ser Arg Ala Thr Glu Leu
20           25           30
Phe Lys Ser Gly Tyr Asn Cys Ser Gln Ser Val Val Ala Phe Ala
35           40           45
Asp Met Tyr Gly Phe Thr Glu Glu Gln Ala Leu Arg Met Ala Ala Ser
50           55           60
Phe Gly Gly Gly Ile Gly Arg Met Arg Glu Thr Cys Gly Ala Ala Cys
65           70           75           80
Gly Met Phe Leu Leu Ala Gly Leu Glu Lys Gly Ala Ile Asp Gly Ala
85           90           95
Asp Arg Glu Gly Lys Ala Ala Asn Tyr Ala Leu Val Gln Glu Leu Ala
100          105          110
Ala Glu Phe Lys Lys Arg Asn Gly Ser Leu Asn Cys Gly Glu Leu Leu
115          120          125
Gly Leu Lys Lys Lys Ala Pro Val Ser Ser Glu Pro Glu Ala Arg Thr
130          135          140
Glu Gln Tyr Tyr Ala Lys Arg Pro Cys Ser Lys Met Val Glu Glu Ala
145          150          155          160
Ala Arg Ile Trp Ala Glu Tyr Leu Glu Lys Glu Lys Lys
165          170

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<210> 5822  
 <211> 95  
 <212> PRT  
 <213> B.fragilis

```

<400> 5822
Ala Glu Asn Glu Thr Arg Thr Arg Asp Pro Asn Leu Gly Lys Val Met
1           5           10           15
Leu Tyr Gln Leu Ser Tyr Phe Arg Asn Val Val Pro Arg Thr Gly Leu
20           25           30
Glu Pro Ala Cys Leu Ser Thr His Ala Pro Glu Thr Cys Ala Ser Thr
35           40           45
Asn Ser Ala Thr Trp Ala Leu Thr Asn Gln Lys Pro Ala Val Lys Lys
50           55           60
Asn Gly Glu Glu Gln Ile Thr Asp Val Leu Val Glu Arg Lys Thr Arg
65           70           75           80
Leu Glu Leu Ala Thr Leu Thr Leu Ala Arg Leu Cys Ser Thr Asn
85           90           95

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<210> 5823  
 <211> 603  
 <212> PRT  
 <213> B.fragilis

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<400> 5823
Arg Ile Lys Asp Asn Val Asn Asn Val Tyr Asn Asp Thr Arg Ile Asp
1           5           10           15
Arg Leu Thr Lys His Phe Leu Ala Gln Ala Val Phe Asn Glu Lys Leu
20           25           30
Asn Leu Asn Lys Leu Thr Met Asp Trp Ile Val His Gln Leu Arg Val
35           40           45
His Pro Glu Leu Ala Ile Phe Leu Thr Leu Phe Val Gly Phe Trp Ile
50           55           60
Gly Lys Ile Lys Ile Gly Lys Phe Ser Leu Gly Val Val Thr Ser Val
65           70           75           80
Leu Leu Val Gly Val Leu Val Gly Gln Leu Asp Ile Thr Val Asp Gly
85           90           95

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Pro Ile Lys Ser Val Phe Phe Leu Leu Phe Leu Phe Ala Ile Gly Tyr  
 100 105 110  
 Lys Val Gly Pro Gln Phe Phe Arg Gly Leu Lys Lys Asp Gly Leu Pro  
 115 120 125  
 Gln Met Gly Phe Ala Ala Ile Met Cys Val Phe Cys Leu Ile Ile Pro  
 130 135 140  
 Trp Ile Leu Ala Lys Ile Met Gly Tyr Asn Val Gly Glu Ala Ala Gly  
 145 150 155 160  
 Leu Leu Ala Gly Ser Gln Thr Ile Ser Ala Val Ile Gly Val Ala Gly  
 165 170 175  
 Asp Thr Ile Asn Glu Leu Asn Ile Ser Pro Glu Thr Lys Glu Ala Tyr  
 180 185 190  
 Asn Asn Ile Ile Pro Val Ser Tyr Ala Val Thr Tyr Ile Phe Gly Thr  
 195 200 205  
 Ala Gly Ser Ala Trp Val Leu Gly Ser Leu Gly Pro Arg Leu Leu Gly  
 210 215 220  
 Gly Leu Asp Lys Val Lys Ala Ala Cys Lys Glu Leu Glu Ala Lys Met  
 225 230 235 240  
 Gly Asn Asn Glu Ala Asp Gln Pro Gly Phe Met Ala Ala Ala Arg Pro  
 245 250 255  
 Val Thr Phe Arg Ala Tyr Lys Ile Ala Asn Glu Trp Phe Gly Asp Gly  
 260 265 270  
 Lys Arg Val Ser Asp Leu Glu Ser Tyr Phe Gln Glu Asn Asp Lys Arg  
 275 280 285  
 Leu Phe Val Glu Arg Val Arg Gln Ala Gly Val Ile Val Lys Glu Val  
 290 295 300  
 Ser Pro Thr Phe Val Leu Lys Lys Gly Asp Glu Val Val Leu Ser Gly  
 305 310 315 320  
 Arg Arg Glu Tyr Val Ile Gly Glu Glu Asp Trp Ile Gly Pro Glu Val  
 325 330 335  
 Leu Asp Pro Gln Leu Leu Asp Phe Pro Ala Glu Val Leu Pro Val Met  
 340 345 350  
 Val Thr Arg Lys Thr Val Ala Gly Glu Lys Val Ser Thr Ile Arg Ala  
 355 360 365  
 Leu Lys Phe Met His Gly Val Ser Ile Arg Arg Ile Lys Arg Ala Gly  
 370 375 380  
 Ile Asp Ile Pro Val Leu Ala Gln Thr Val Val Asp Ala Gly Asp Met  
 385 390 395 400  
 Val Glu Leu Val Gly Thr Lys His Glu Val Asp Ala Ala Ala Lys Gln  
 405 410 415  
 Leu Gly Tyr Ala Asp Arg Pro Thr Asn Gln Thr Asp Met Ile Phe Val  
 420 425 430  
 Gly Leu Gly Ile Leu Ile Gly Gly Leu Ile Gly Ala Leu Ser Ile His  
 435 440 445  
 Met Gly Gly Val Pro Ile Ser Leu Ser Thr Ser Gly Gly Ala Leu Ile  
 450 455 460  
 Gly Gly Leu Phe Phe Gly Trp Leu Arg Ser Lys His Pro Thr Phe Gly  
 465 470 475 480  
 Arg Ile Pro Glu Pro Ala Leu Trp Ile Leu Asp Asn Val Gly Leu Asn  
 485 490 495  
 Met Phe Ile Ala Val Val Gly Ile Ala Ala Gly Pro Ser Phe Val Gln  
 500 505 510  
 Gly Phe Lys Glu Val Gly Leu Ser Leu Phe Ile Val Gly Ala Leu Ala  
 515 520 525  
 Thr Ser Ile Pro Leu Ile Ala Gly Ile Leu Met Ala Lys Tyr Ile Phe  
 530 535 540  
 Lys Phe His Pro Ala Leu Val Leu Gly Cys Thr Ala Gly Ala Arg Thr  
 545 550 555 560  
 Thr Thr Ala Ala Leu Gly Ala Ile Gln Glu Ala Val Glu Ser Glu Thr

	565		570		575										
Pro	Ala	Leu	Gly	Tyr	Thr	Val	Thr	Tyr	Ala	Val	Gly	Asn	Thr	Leu	Leu
	580		585		590										
Ile	Ile	Trp	Gly	Val	Val	Ile	Val	Leu	Leu	Met					
	595		600												

<210> 5824  
 <211> 595  
 <212> PRT  
 <213> B.fragilis

<400> 5824

Tyr	Gln	Met	Asp	Lys	Ile	Arg	Asn	Phe	Cys	Ile	Ile	Ala	His	Ile	Asp
1				5				10					15		
His	Gly	Lys	Ser	Thr	Leu	Ala	Asp	Arg	Leu	Leu	Glu	Phe	Thr	Asn	Thr
			20					25					30		
Ile	Gln	Val	Thr	Glu	Gly	Gln	Met	Leu	Asp	Asp	Met	Asp	Leu	Glu	Lys
		35					40					45			
Glu	Arg	Gly	Ile	Thr	Ile	Lys	Ser	His	Ala	Ile	Gln	Met	Glu	Tyr	Thr
	50					55					60				
Tyr	Lys	Gly	Glu	Lys	Tyr	Ile	Leu	Asn	Leu	Ile	Asp	Thr	Pro	Gly	His
65					70					75				80	
Val	Asp	Phe	Ser	Tyr	Glu	Val	Ser	Arg	Ser	Ile	Ala	Ala	Cys	Glu	Gly
				85					90					95	
Ala	Leu	Leu	Ile	Val	Asp	Ala	Ser	Gln	Gly	Val	Gln	Ala	Gln	Thr	Ile
			100					105					110		
Ser	Asn	Leu	Tyr	Met	Ala	Ile	Glu	His	Asp	Leu	Glu	Ile	Ile	Pro	Ile
		115					120					125			
Ile	Asn	Lys	Cys	Asp	Met	Ala	Ser	Ala	Met	Pro	Glu	Glu	Val	Glu	Asp
	130					135					140				
Glu	Ile	Val	Glu	Leu	Leu	Gly	Cys	Lys	Arg	Asp	Glu	Ile	Ile	Arg	Ala
145					150					155					160
Ser	Gly	Lys	Thr	Gly	Met	Gly	Val	Glu	Glu	Ile	Leu	Ala	Ala	Val	Ile
			165						170					175	
Glu	Arg	Ile	Pro	His	Pro	Gln	Gly	Asp	Glu	Ser	Ala	Pro	Leu	Gln	Ala
		180						185					190		
Leu	Ile	Phe	Asp	Ser	Val	Phe	Asn	Ser	Phe	Arg	Gly	Ile	Ile	Ala	Tyr
	195						200					205			
Phe	Lys	Ile	Thr	Asn	Gly	Val	Ile	Arg	Ala	Gly	Asp	Lys	Val	Lys	Phe
	210					215					220				
Phe	Asn	Thr	Gly	Lys	Glu	Tyr	Val	Ala	Asp	Glu	Ile	Gly	Val	Leu	Lys
225					230					235					240
Met	Glu	Met	Val	Pro	Arg	Lys	Glu	Leu	Arg	Thr	Gly	Asp	Val	Gly	Tyr
			245						250					255	
Ile	Ile	Ser	Gly	Ile	Lys	Thr	Ser	Lys	Glu	Val	Lys	Val	Gly	Asp	Thr
		260						265					270		
Ile	Thr	His	Val	Ala	Arg	Pro	Cys	Asp	Lys	Ala	Ile	Ala	Gly	Phe	Glu
	275						280					285			
Glu	Val	Lys	Pro	Met	Val	Phe	Ala	Gly	Val	Tyr	Pro	Ile	Glu	Ala	Glu
	290					295					300				
Glu	Phe	Glu	Asp	Leu	Arg	Ala	Ser	Leu	Glu	Lys	Leu	Gln	Leu	Asn	Asp
305					310					315				320	
Ala	Ser	Leu	Thr	Phe	Gln	Pro	Glu	Ser	Ser	Leu	Ala	Leu	Gly	Phe	Gly
			325						330					335	
Phe	Arg	Cys	Gly	Phe	Leu	Gly	Leu	Leu	His	Met	Glu	Ile	Val	Gln	Glu
		340					345						350		
Arg	Leu	Asp	Arg	Glu	Phe	Asp	Met	Asn	Val	Ile	Thr	Thr	Val	Pro	Asn
	355						360					365			
Val	Ser	Tyr	His	Ile	Tyr	Asp	Lys	Gln	Gly	Asn	Met	Thr	Glu	Val	His

370 375 380  
 Asn Pro Gly Gly Met Pro Asp Pro Thr Met Ile Asp His Ile Glu Glu  
 385 390 395 400  
 Pro Tyr Ile Lys Ala Ser Ile Ile Thr Thr Thr Asp Tyr Ile Gly Pro  
 405 410 415  
 Ile Met Thr Leu Cys Leu Gly Lys Arg Gly Glu Leu Leu Lys Gln Glu  
 420 425 430  
 Tyr Ile Ser Gly Asn Arg Val Glu Leu Phe Tyr Asn Met Pro Leu Gly  
 435 440 445  
 Glu Ile Val Ile Asp Phe Tyr Asp Arg Leu Lys Ser Ile Ser Lys Gly  
 450 455 460  
 Tyr Ala Ser Phe Asp Tyr His Pro Asp Gly Phe Arg Pro Ser Lys Leu  
 465 470 475 480  
 Val Lys Leu Asp Ile Leu Leu Asn Gly Glu Ser Val Asp Ala Leu Ser  
 485 490 495  
 Thr Leu Thr His Phe Asp Asn Ala Tyr Asp Met Gly Arg Arg Met Cys  
 500 505 510  
 Glu Lys Leu Lys Glu Leu Ile Pro Arg Gln Gln Phe Glu Ile Ala Ile  
 515 520 525  
 Gln Ala Ala Ile Gly Ala Lys Ile Ile Ala Arg Glu Thr Ile Lys Ala  
 530 535 540  
 Val Arg Lys Asp Val Thr Ala Lys Cys Tyr Gly Gly Asp Ile Ser Arg  
 545 550 555 560  
 Lys Arg Lys Leu Leu Glu Lys Gln Lys Lys Gly Lys Lys Arg Met Lys  
 565 570 575  
 Gln Ile Gly Asn Val Glu Val Pro Gln Lys Ala Phe Leu Ala Val Leu  
 580 585 590  
 Lys Leu Asp  
 595  
  
 <210> 5825  
 <211> 238  
 <212> PRT  
 <213> B.fragilis  
  
 <400> 5825  
 Asn Lys Arg Glu Phe Met Glu Arg Tyr Ser Arg Gln Thr Met Leu Pro  
 1 5 10 15  
 Glu Ile Gly Glu Ala Gly Gln Leu Lys Leu Lys Ala Ala Lys Val Leu  
 20 25 30  
 Ile Val Gly Val Gly Gly Leu Gly Ser Pro Ile Ala Leu Tyr Leu Ala  
 35 40 45  
 Gly Ala Gly Val Gly Thr Ile Gly Leu Ala Asp Asp Asp Glu Val Ser  
 50 55 60  
 Leu Ser Asn Leu Gln Arg Gln Ile Leu Tyr Thr Glu Glu Glu Val Gly  
 65 70 75 80  
 Asp Leu Lys Ala Ile Cys Ala Ser Met Arg Ile Ser Ala Leu Asn Arg  
 85 90 95  
 Glu Ile Lys Val Asn Ala Cys Pro Gly Arg Leu Ser Lys Glu Asn Ala  
 100 105 110  
 Arg Asp Leu Ile Gly Gln Tyr Asp Ile Ile Val Asp Gly Cys Asp Asn  
 115 120 125  
 Phe Ala Thr Arg Tyr Leu Leu Ser Asp Val Cys Ser Glu Leu Gly Lys  
 130 135 140  
 Pro Tyr Val Tyr Gly Ala Ile Cys Gly Phe Glu Gly Gln Val Ser Val  
 145 150 155 160  
 Phe Asn Tyr Gly Glu Gly Thr Gln Arg Lys Thr Tyr Arg Asp Leu Tyr  
 165 170 175  
 Pro Asp Glu Glu Gly Met Leu His Met Pro Pro Pro Pro Lys Gly Val

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<210> 5826
<211> 148
<212> PRT
<213> B.fragilis
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```
<210> 5827
<211> 592
<212> PRT
<213> B.fragilis
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<400> 5827															
Met	Pro	Val	Trp	Ser	Ile	Leu	Ser	Leu	Ile	Ile	Lys	Asn	Asn	Met	Lys
1				5					10					15	
Val	Ser	Asp	Tyr	Ile	Ile	Ser	Tyr	Ile	Glu	Ser	Arg	Gly	Val	His	Val
			20					25					30		
Ile	Phe	Gly	Tyr	Ile	Gly	Gly	Met	Ile	Thr	His	Leu	Val	Asp	Ser	Val
		35					40						45		
Ser	Gln	Asn	Pro	Asn	Met	Gln	Phe	Ile	Gln	Thr	Tyr	His	Glu	Gln	Thr
	50					55					60				
Ala	Ala	Ile	Ala	Ala	Glu	Gly	Phe	Ala	Lys	Glu	Ser	Gly	Leu	Phe	Gly
65					70					75					80
Val	Ala	Ile	Ser	Thr	Ser	Gly	Pro	Gly	Ala	Thr	Asn	Met	Met	Thr	Gly
				85					90					95	
Ile	Ala	Asp	Ala	Tyr	Phe	Asp	Ser	Ile	Pro	Val	Leu	Tyr	Ile	Thr	Gly
		100						105					110		
Gln	Val	Asn	Thr	Tyr	Glu	Tyr	Lys	Tyr	Asp	Lys	Pro	Val	Arg	Gln	Gln
		115					120					125			
Gly	Phe	Gln	Glu	Thr	Asp	Ile	Val	Ser	Met	Val	Lys	Ser	Val	Thr	Lys
	130					135					140				

Tyr Ala Lys Leu Ile Asp Lys Ala Glu Asp Ile Lys Tyr Glu Leu Asp  
 145 150 155 160  
 Lys Ala Leu Tyr Ile Ala Leu Ser Gly Arg Lys Gly Pro Val Leu Leu  
 165 170 175  
 Asp Leu Pro Met Asp Ile Gln Arg Glu Glu Ile Asn Gln Glu Thr Leu  
 180 185 190  
 Ile Gly Tyr Ser Gly Glu Ser Ile Leu Asn Asn Pro Leu Ile Ala Trp  
 195 200 205  
 Glu Glu Ile Arg Leu Leu Met Glu Ser Ser His Arg Pro Met Leu Leu  
 210 215 220  
 Leu Gly Ala Gly Cys Cys Asn Ser Asp Met Val Leu Leu Asn Asp Phe  
 225 230 235 240  
 Ile Arg Arg His His Phe Pro Val Ile Thr Ser Leu Met Gly Arg Gly  
 245 250 255  
 Ala Ile Asp Glu Thr Tyr Asp Asn Tyr Ile Gly Met Ile Gly Ser Tyr  
 260 265 270  
 Gly Asn Arg Cys Ala Asn Met Gly Val Ala Asn Ala Asp Leu Leu Ile  
 275 280 285  
 Ala Leu Gly Thr Arg Leu Asp Thr Arg Gln Thr Gly Ala Arg Leu Asp  
 290 295 300  
 Gln Phe Leu Ser Asn Gly His Ile Ile His Val Asp Ile Asp Asp Asn  
 305 310 315 320  
 Glu Leu Glu Tyr His Arg Leu Leu Asn Arg Lys Lys Val Asn Cys Thr  
 325 330 335  
 Ile Asp Cys Phe Leu Gln Lys Glu Lys Glu Met Pro Ile Ser Leu Gly  
 340 345 350  
 Asp Ile Ser Glu Trp Asn Phe Phe Leu His Gly Leu Lys Gln Arg Tyr  
 355 360 365  
 Gly Gln Asp Ala Glu Ile Glu Arg Phe Val Glu Asn Lys Ser Pro Tyr  
 370 375 380  
 Arg Phe Met Gln Tyr Phe Asp Ser Leu Thr Gln Thr Asp Asp Val Ile  
 385 390 395 400  
 Cys Ala Asp Ile Gly Gln Asn Gln Met Trp Ala Ala Gln Thr Leu Arg  
 405 410 415  
 Leu Lys Ser Gly Gln Lys Phe Val Thr Ser Gly Gly Leu Ala Pro Met  
 420 425 430  
 Gly Phe Ser Leu Pro Val Ala Ile Gly Cys Ser Phe Ala Asn Pro Asn  
 435 440 445  
 Lys Lys Val Phe Ser Ile Asn Gly Asp Gly Gly Phe His Met Ala Ile  
 450 455 460  
 Gln Ser Leu Met Leu Ile Ser Gln Tyr Asn Leu Pro Ile Lys Val Ile  
 465 470 475 480  
 Ile Leu Asn Asn Ala Ser Leu Gly Met Ile Thr Gln Phe Gln His Leu  
 485 490 495  
 Tyr Phe Asp Asp Arg Met Cys Gly Thr Thr Leu Asn Gly Gly Tyr Arg  
 500 505 510  
 Val Pro Asp Ile Lys Ser Leu Ser Thr Ala Tyr Gly Leu Pro Tyr Phe  
 515 520 525  
 Arg Leu Thr Val Asp Arg Leu Asp Asp Pro Asp Leu Arg Glu Glu Met  
 530 535 540  
 Gln Ala Ala His Asn Cys Ile Ile Glu Cys Val Val Glu Gly Leu Thr  
 545 550 555 560  
 Ser Val Ser Pro Lys Leu Glu Tyr Asp Lys Pro Ile Ser Lys Pro Leu  
 565 570 575  
 Pro Leu Leu Pro Glu Glu Glu Tyr Lys Glu Asn Met Leu Leu Glu Ala  
 580 585 590

&lt;210&gt; 5828

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5828

```

Arg Ala Val Trp Lys His Ala Lys Phe Ser Lys Ser Phe Val Asp Ser
1          5          10          15
Glu Arg Ser Trp Gln Ala Asn Tyr Gly Gln Leu Thr Cys Gly His Cys
20          25          30
Asn Leu Thr Tyr Phe His Tyr Lys Gly Trp Phe Leu Ile Lys Leu Ile
35          40          45
Ser Asn Phe Ala Lys Leu Asn Ser Leu Thr Lys Glu Met Lys Leu Ile
50          55          60
Val Val Thr Thr Pro Thr Phe Phe Val Glu Glu Asp Lys Ile Ile Thr
65          70          75          80
Ala Leu Phe Glu Glu Gly Leu Asp Ile Leu His Leu Arg Lys Pro Glu
85          90          95
Thr Pro Ala Met Tyr Ser Glu Arg Leu Leu Thr Leu Ile Pro Glu Lys
100         105         110
Tyr His Lys Arg Ile Val Thr His Glu His Phe Tyr Leu Lys Glu Glu
115         120         125
Phe Asn Leu Met Gly Ile His Leu Asn Ala Arg Asn Pro Lys Glu Pro
130         135         140
His Asp Tyr Ser Gly His Ile Ser Cys Ser Cys His Ser Val Glu Glu
145         150         155         160
Val Lys Asn Lys Lys His Phe Tyr Asp Tyr Val Phe Met Ser Pro Val
165         170         175
Tyr Asp Ser Ile Ser Lys Glu Gly Tyr Asn Ser Pro Tyr Thr Ala Glu
180         185         190
Glu Leu Arg Leu Ala Ala Lys Asp Lys Ile Ile Asp Asn Lys Val Met
195         200         205
Ala Leu Gly Gly Ile Thr Pro Asp Asn Ile Leu Glu Val Lys Asp Phe
210         215         220
Gly Phe Gly Gly Ala Val Val Leu Gly Asp Leu Trp Gly Lys Phe Asp
225         230         235         240
Ala Cys Ser Asp Gln Asp Tyr Leu Ala Val Ile Glu His Phe Lys Lys
245         250         255
Leu Lys Arg Met Ala Asp
260

```

&lt;210&gt; 5829

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5829

```

Ser Met Ala Arg Asn Lys Leu Leu His Asn Gln Asn Asp Thr Asp Pro
1          5          10          15
Met Gly Thr Val Ala Asn Leu Phe Asp Val Ala Met Val Phe Ala Val
20          25          30
Ala Leu Met Val Ala Leu Val Ser Arg Phe Asn Met Thr Glu Ile Phe
35          40          45
Ser Lys Glu Asp Tyr Thr Met Val Lys Asn Pro Gly Gln Glu Asn Met
50          55          60
Glu Ile Ile Thr Lys Glu Gly Lys Glu Ile Lys Arg Tyr Thr Pro Ser
65          70          75          80
Glu Gln Lys Glu Ser Ser Gly Lys Arg Gly Lys Lys Val Gly Val Ala
85          90          95
Tyr Glu Leu Glu Asn Gly Lys Ile Ile Tyr Val Pro Glu
100         105

```

<210> 5830  
 <211> 307  
 <212> PRT  
 <213> B.fragilis

<400> 5830

```

Phe Arg Ser Ser Asn Leu Ile Leu Ile Ser Ile Leu Met Lys Gly Ile
1      5      10      15
Val Leu Ala Gly Gly Ser Gly Thr Arg Leu Tyr Pro Ile Thr Lys Gly
20      25      30
Val Ser Lys Gln Leu Leu Pro Ile Phe Asp Lys Pro Met Ile Tyr Tyr
35      40      45
Pro Ile Ser Val Leu Met Leu Ala Gly Ile Arg Glu Ile Leu Ile Ile
50      55      60
Ser Thr Pro Tyr Asp Leu Pro Gly Phe Gln Arg Leu Leu Gly Asp Gly
65      70      75      80
Ser Asp Phe Gly Val Arg Phe Glu Tyr Ala Glu Gln Pro Ser Pro Asp
85      90      95
Gly Leu Ala Gln Ala Phe Ile Ile Gly Glu Lys Phe Ile Gly Gly Asp
100     105     110
Ser Val Cys Leu Val Leu Gly Asp Asn Ile Phe Tyr Gly Gln Ser Phe
115     120     125
Thr Arg Met Leu Arg Glu Ala Val His Thr Ala Lys Ser Glu Asn Lys
130     135     140
Ala Thr Val Phe Gly Tyr Trp Val Ser Asp Pro Glu Arg Tyr Gly Val
145     150     155     160
Ala Glu Phe Asp Lys Ala Gly Asn Val Leu Ser Ile Glu Glu Lys Pro
165     170     175
Thr Val Pro Lys Ser Asn Tyr Ala Val Val Gly Leu Tyr Phe Tyr Pro
180     185     190
Asn Lys Val Val Glu Val Ala Lys Ser Ile Gln Pro Ser Pro Arg Gly
195     200     205
Glu Leu Glu Ile Thr Thr Val Asn Gln Arg Phe Leu Ser Asp Arg Glu
210     215     220
Leu Lys Val Gln Leu Leu Gly Arg Gly Phe Ala Trp Leu Asp Thr Gly
225     230     235     240
Thr His Asp Ser Leu Ser Glu Ala Ser Thr Phe Ile Glu Val Ile Glu
245     250     255
Lys Arg Gln Gly Leu Lys Val Ala Cys Leu Glu Gly Ile Ala Leu Arg
260     265     270
Gln Gly Trp Ile Ser Pro Glu Glu Met Lys Ala Leu Ala Gly Pro Met
275     280     285
Leu Lys Asn Gln Tyr Gly Gln Tyr Leu Leu Lys Val Ile Asp Glu Leu
290     295     300
Ser Ile Lys
305

```

<210> 5831  
 <211> 478  
 <212> PRT  
 <213> B.fragilis

<400> 5831

```

Tyr Asn Ser Arg Ser Thr Val Ala Arg Lys Lys Lys Glu Leu Pro Leu
1      5      10      15
Leu Glu Lys Val Thr Ile Thr Asp Val Ala Ala Glu Gly Lys Ala Ile
20      25      30
Ala Lys Val Asp Asp Leu Val Val Phe Val Pro Tyr Val Val Pro Gly

```





&lt;213&gt; B.fragilis

&lt;400&gt; 5832

Tyr Asn Pro Ser Ser Asn Thr Arg Phe Ile Ala Phe Ile Glu Tyr Asn  
 1 5 10 15  
 Tyr Gln Asn Met Lys Phe Asn Arg Lys Glu Lys Thr Phe Ile Met Lys  
 20 25 30  
 Lys Thr Tyr Leu Trp Thr Ala Met Leu Cys Thr Ala Ile Ala Phe Ser  
 35 40 45  
 Ala Cys Lys Ser Asn Lys Ala Gly Gln Asp Thr Ala Ser Glu Ala Lys  
 50 55 60  
 Thr Glu Glu Ala Val Ile Pro Gly Ser Asp Lys Asp Glu His Gly Cys  
 65 70 75 80  
 Val Gly Ser Ala Gly Tyr Val Trp Ser Glu Val Lys Lys Asp Cys Ile  
 85 90 95  
 Arg Pro Phe Glu Ala Gly Leu Lys Ile Ser Glu Thr Gln Lys Asp Asn  
 100 105 110  
 Ala Thr Tyr Ala Thr Tyr Ile Val Phe Ala Ala Asp Ser Val Gln Ala  
 115 120 125  
 Glu Leu Tyr Thr Pro Glu Ser Glu Gly Ser Ile Leu Leu Glu Arg Ala  
 130 135 140  
 Asp Asn Gln Trp Lys Asn Asp Thr Ile Ser Val Ser Cys Lys Asn Gly  
 145 150 155 160  
 Gln Trp Ser Ile Ser Lys Gln Lys  
 165

&lt;210&gt; 5833

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5833

Pro Asp Lys Arg Leu Phe Ile Glu Met Lys Ile Leu Leu Thr Gly Ala  
 1 5 10 15  
 Thr Gly Phe Leu Gly Ser His Ile Ala Glu Ala Leu Leu Ala Asn Asp  
 20 25 30  
 Val Asn Leu Met Ile Thr Lys Arg Ser Met Ser Ser Leu Asn Asn Cys  
 35 40 45  
 Thr Ser Phe Ile Asp His Val Gln Val Ile Asn Ser Asp Asn Pro Ile  
 50 55 60  
 Trp Ile Ser Gln Ala Cys Ser Phe Ser Pro Asp Ile Ile Ile His Ser  
 65 70 75 80  
 Ala Trp Thr Gly Val Leu Ser Gly Asn Arg Tyr Asp Trp Pro Val Gln  
 85 90 95  
 Leu Ser Asn Ile Asp Phe Met Asn Ser Leu Leu Tyr Ile Ala Glu Lys  
 100 105 110  
 Ser Asn Val Ser Lys Phe Ile Ala Leu Gly Ser Gln Ala Glu Tyr Gly  
 115 120 125  
 Asp Phe Asp Gly Ile Val Ser Glu Asn Ala Gly Leu Phe Pro Val Asn  
 130 135 140  
 Ser Tyr Gly Tyr Val Lys Ser Met Val Ser Arg Met Val Gly Ser Phe  
 145 150 155 160  
 Cys Asp Leu Arg Gly Ile Asp Trp Tyr Trp Leu Arg Val Phe Ser Val  
 165 170 175  
 Tyr Gly Glu Arg Glu Ser Asn Gln Trp Leu Ile Pro Gly Leu Leu Thr  
 180 185 190  
 Asn Met Leu Asp Asn Met Ala Gly Met Asp Leu Thr Leu Gly Gln Gln  
 195 200 205  
 Arg Tyr Ala Tyr Leu Tyr Val Lys Asp Phe Ala Asn Ala Val Met Lys

```

      210                      215                      220
Val Cys Ser Gly Lys Thr Pro Cys Gly Val Tyr Asn Leu Ser Ser Ser
225                      230                      235                      240
Thr Ala Ile Glu Leu Arg Val Leu Leu Glu His Leu Arg Asp Arg Leu
      245                      250                      255
Asn Pro Ala Phe Glu Leu Arg Phe Gly Ala Leu Pro Tyr Arg Ala Gly
      260                      265                      270
Gln Pro Met Leu Val Gln Gly Asp Val Ser Lys Phe Val Lys Ser Phe
      275                      280                      285
Gly His Phe Glu Asn Thr Pro Leu Asn Ala Gly Leu Glu Tyr Thr Ile
      290                      295                      300
Thr Tyr Tyr Lys Lys Gln His Glu Ser Ile
305                      310

```

&lt;210&gt; 5834

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5834

```

Arg Arg Arg Arg Val Met Lys Tyr Val Tyr Lys Thr Gln Gly Thr Cys
1                      5                      10                      15
Ser Thr Asn Ile Glu Leu Glu Val Glu Asn Asn Ile Val Lys Glu Val
      20                      25                      30
Ala Phe Trp Gly Gly Cys Asn Gly Asn Leu Gln Gly Ile Ser Arg Leu
      35                      40                      45
Val Thr Gly Met Pro Val Ser Asp Val Ile Thr Lys Leu Glu Gly Ile
      50                      55                      60
Arg Cys Gly Ala Arg Ser Thr Ser Cys Pro Asp Gln Leu Cys Arg Ala
65                      70                      75                      80
Leu His Glu Met Gly Phe
      85

```

&lt;210&gt; 5835

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5835

```

Pro Met Leu Ser Leu Gln Phe Ile Thr His Gln Thr Glu Asn Tyr Ser
1                      5                      10                      15
Tyr Leu Glu Ser Ala Arg Met Ala Leu Glu Gly Gly Cys Lys Trp Ile
      20                      25                      30
Gln Leu Arg Met Lys Glu Ala Ser Pro Glu Glu Val Glu Ala Val Ala
      35                      40                      45
Leu Gln Leu Lys Pro Leu Cys Lys Ala Lys Glu Ala Ile Leu Ile Leu
      50                      55                      60
Asp Asp His Val Glu Leu Ala Lys Lys Leu Glu Val Asp Gly Val His
65                      70                      75                      80
Leu Gly Lys Lys Asp Met Pro Ile Gly Glu Ala Arg Gln Met Leu Gly
      85                      90                      95
Glu Ala Phe Ile Ile Gly Gly Thr Ala Asn Thr Phe Glu Asp Val Lys
      100                      105                      110
Leu His Tyr Ala Ala Gly Ala Asp Tyr Leu Gly Ile Gly Pro Phe Arg
      115                      120                      125
Phe Thr Thr Thr Lys Lys Asn Leu Ser Pro Val Leu Gly Leu Glu Gly
      130                      135                      140
Tyr Thr Ser Ile Leu Ala Gln Met Asn Glu Ala Gly Ile Arg Ile Pro
145                      150                      155                      160

```

Val Val Ala Ile Gly Gly Ile Val Ala Glu Asp Ile Pro Ala Ile Met  
                   165                  170                  175  
 Glu Thr Gly Val Asn Gly Ile Ala Leu Ser Gly Ala Ile Leu Gln Ala  
                   180                  185                  190  
 Pro Asp Pro Val Glu Glu Thr Lys Arg Ile Leu Asn Ile  
                   195                  200                  205

&lt;210&gt; 5836

&lt;211&gt; 297

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5836

Tyr Trp Val Gly Tyr Cys Ile Ile Ile Glu Leu Asn Phe Lys Lys Asn  
 1                  5                  10                  15  
 Thr Tyr Tyr Met Ser Asn Gln Arg Glu Ala Gly Ile Thr Ala Phe Leu  
                   20                  25                  30  
 Pro Val Tyr Asn Glu Glu Lys Arg Leu Lys Asn Val Leu Glu Cys Phe  
                   35                  40                  45  
 Gln Trp Cys Asp Glu Ile Leu Leu Asp Lys Gly Ser Val Asp Asp  
                   50                  55                  60  
 Thr Val Lys Ile Ala Lys Gln Tyr Pro Asn Val Thr Val Leu Thr Lys  
                   65                  70                  75                  80  
 Glu His Thr Glu Lys Tyr Asp Ser Asn Glu Ile Glu Tyr Phe Ile Lys  
                   85                  90                  95  
 Asn Cys Thr Thr Glu Trp Cys Met Ile Val Thr Ala Ser Asp Leu Ile  
                   100                  105                  110  
 His Pro Lys Leu Ala Arg Asn Met Lys Glu Leu Ile Asn Asn Cys Asn  
                   115                  120                  125  
 Phe Glu Tyr Asp Ile Val Ser Val Pro Tyr Lys Pro Tyr Phe Leu Gly  
                   130                  135                  140  
 Cys Cys Glu Lys Tyr Ser Pro Trp Tyr Thr Glu His Met Asn Lys Ile  
                   145                  150                  155                  160  
 Phe Arg Val Ser Val Leu Asn Leu Asn Leu Asn Ser Val His Ala Val  
                   165                  170                  175  
 Leu Thr Pro Thr Ser Ser Arg Leu Tyr Gln Ile Pro Phe Thr Asp Pro  
                   180                  185                  190  
 Lys Val Ala Tyr Tyr His Leu Thr His Gln Ser Ala Glu Ser Ile Ile  
                   195                  200                  205  
 Glu Arg Asn Val Arg Tyr Trp Lys Gly Glu Ala Ser Ser Ser Glu Pro  
                   210                  215                  220  
 Leu Ser Leu Ile Asn Lys Ile Ile Ile Arg Thr Val Leu Arg Phe Val  
                   225                  230                  235                  240  
 Phe Leu Arg Gly Gly Leu Phe Lys Gly Arg Gln Ala Leu Ala Leu Phe  
                   245                  250                  255  
 Tyr Ser Phe Leu Ser Tyr Tyr Met Met Thr Tyr Val Cys Lys Trp Glu  
                   260                  265                  270  
 Tyr Gln Asn Gly Glu Val Glu Ser Ile Tyr Thr Ala Leu Gln Lys Glu  
                   275                  280                  285  
 Ile Val Asp Leu Trp Ser Lys Pro Lys  
                   290                  295

&lt;210&gt; 5837

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5837

Ala Asn Asn Gly His Trp Ala Leu Ser Phe Ser Ser Thr Met Lys Tyr

```

1           5           10           15
Lys Glu His Ile Ser Thr Asn Thr Phe Ala Ile Ala Pro Tyr Ala Arg
20           25           30
Phe Ser Tyr Thr Glu Asn Lys Ile Val Arg Leu Phe Val Asp Gly Gly
35           40           45
Phe Gly Phe Ala Thr Thr Lys Val Lys Asp Gly Gly Asp Ala Val Asn
50           55           60
Gly Phe Glu Ile Gly Leu Lys Pro Gly Ile Ala Ile Lys Leu Asn Gln
65           70           75           80
His Phe Ser Leu Val Ala Lys Cys Gly Phe Leu Gly Tyr Lys Asp Asp
85           90           95
Tyr Met Gly Asn Gly Phe Gly Phe Ser Ala Ser Ser Glu Asp Leu Thr
100          105          110
Phe Gly Phe His Tyr Glu Phe
115

```

&lt;210&gt; 5838

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5838

```

Val Cys Leu Gly Ile Asn Glu Ser Lys Tyr Lys Glu Gly Cys Val Arg
1           5           10           15
Glu Lys Glu Lys Thr Glu Glu Ile His Asn Pro Phe Gly Ser Thr Asn
20           25           30
Cys Ile Arg Phe Leu Gly Tyr Asn Leu Ser His Arg Val Ala Pro Leu
35           40           45
Cys Leu Tyr Gly Gly Lys Val Ser Glu Lys Glu Asn Lys Lys Lys Val
50           55           60
Asn Arg Gly Leu Phe His Arg Gly Val Met Arg Asn Leu Phe Leu Pro
65           70           75           80
Phe Leu Lys Thr His His Lys Lys His Arg Val Thr Gln Arg Arg Phe
85           90           95

```

&lt;210&gt; 5839

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5839

```

Arg Gln Arg Gly Ala Thr Arg Trp Leu Arg Leu Tyr Pro Lys Asn Leu
1           5           10           15
Met Gln Leu Val Leu Pro Lys Gly Leu Cys Ile Ser Ser Val Phe Ser
20           25           30
Phe Ser Arg Thr His Pro Ser Leu Tyr Leu Leu Ser Phe Ile Pro Lys
35           40           45
His Thr Tyr Thr Asn Met Lys Val Gln Val Asn Asn Lys Glu Val Glu
50           55           60
Thr Ala Ala Ser Thr Leu Ala Gln Leu Ala Thr Gln Leu Gln Leu Pro
65           70           75           80
Glu Asn Gly Val Ala Ile Ala Val Asn Asn Arg Met Ile Pro Arg Pro
85           90           95
Gln Trp Asp Gly Phe Gly Leu Gln Glu Asn Asp Asn Leu Ile Val Ile
100          105          110
Lys Ala Ala Cys Gly Gly
115

```

&lt;210&gt; 5840



Leu Pro Ala Ser Pro Gly Ala Ala Thr Gly Gln Ile Val Phe Phe Ala  
 435 440 445  
 Asp Asp Ala Ala Glu Trp His Ala Ala Gly Lys Arg Val Val Met Val  
 450 455 460  
 Arg Ile Glu Thr Ser Pro Gly Asp Leu Ala Gly Met Ala Val Ala Glu  
 465 470 475 480  
 Gly Ile Leu Thr Ala Arg Gly Gly Met Thr Ser His Ala Ala Val Val  
 485 490 495  
 Ala Arg Gly Met Gly Lys Cys Cys Val Ser Gly Ala Gly Ala Leu Asn  
 500 505 510  
 Ile Asp Tyr Lys Ala Arg Thr Val Glu Val Asp Gly Val Leu Leu Lys  
 515 520 525  
 Glu Gly Asp Phe Ile Ser Leu Asn Gly Ser Thr Gly Glu Val Tyr Gln  
 530 535 540  
 Gly Lys Val Glu Thr Lys Ala Ala Glu Leu Ser Gly Asp Phe Ala Asp  
 545 550 555 560  
 Leu Met Lys Leu Ala Asp Lys Tyr Thr Arg Leu Gln Val Arg Thr Asn  
 565 570 575  
 Ala Asp Thr Pro His Asp Ala Glu Val Ala Arg Asn Phe Gly Ala Val  
 580 585 590  
 Gly Ile Gly Leu Cys Arg Thr Glu His Met Phe Phe Glu Gly Glu Lys  
 595 600 605  
 Ile Lys Ala Met Arg Glu Met Ile Leu Ala Glu Asn Ala Glu Gly Arg  
 610 615 620  
 Arg Lys Ala Leu Ala Lys Ile Leu Pro Tyr Gln Gln Ala Asp Phe Lys  
 625 630 635 640  
 Gly Ile Phe Lys Ala Met Ala Gly Cys Pro Val Thr Val Arg Leu Leu  
 645 650 655  
 Asp Pro Pro Leu His Glu Phe Val Pro His Asp Leu Lys Gly Gln Gln  
 660 665 670  
 Glu Met Ala Asp Thr Met Gly Val Ser Leu Gln Tyr Ile Gln Gln Arg  
 675 680 685  
 Val Glu Ser Leu Cys Glu His Asn Pro Met Leu Gly His Arg Gly Cys  
 690 695 700  
 Arg Leu Gly Asn Thr Tyr Pro Glu Ile Thr Gln Met Gln Thr Arg Ala  
 705 710 715 720  
 Ile Leu Gly Ala Ala Leu Glu Leu Lys Lys Glu Gly Ile Glu Thr His  
 725 730 735  
 Pro Glu Ile Met Val Pro Leu Thr Gly Ile Leu Tyr Glu Phe Gln Gln  
 740 745 750  
 Gln Glu Ser Val Ile Arg Ala Glu Ala Asp Lys Leu Phe Glu Glu Val  
 755 760 765  
 Gly Asp Arg Ile Asp Phe Lys Val Gly Thr Met Ile Glu Ile Pro Arg  
 770 775 780  
 Ala Ala Leu Thr Ala Asp Arg Ile Ala Ser Ser Ala Glu Phe Phe Ser  
 785 790 795 800  
 Phe Gly Thr Asn Asp Leu Thr Gln Met Thr Phe Gly Tyr Ser Arg Asp  
 805 810 815  
 Asp Ile Ala Ser Phe Leu Pro Val Tyr Leu Glu Lys Lys Ile Leu Lys  
 820 825 830  
 Val Asp Pro Phe Gln Val Leu Asp Gln Asn Gly Val Gly Gln Leu Val  
 835 840 845  
 Arg Met Ala Thr Glu Lys Gly Arg Ala Ile Arg Pro Asp Leu Lys Cys  
 850 855 860  
 Gly Ile Cys Gly Glu His Gly Gly Glu Pro Ser Ser Val Lys Phe Cys  
 865 870 875 880  
 His Lys Val Gly Leu Asn Tyr Val Ser Cys Ser Pro Phe Arg Val Pro  
 885 890 895  
 Ile Ala Arg Leu Ala Ala Ala Gln Ala Ala Ile Glu Glu

900

905

&lt;210&gt; 5841

&lt;211&gt; 472

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5841

```

Ile Ile Ile Met Lys Gln Ser Lys Ile Ile Val Ala Gly Ile Gly Pro
1           5           10           15
Gly Ser Glu Gln Asp Ile Thr Pro Ala Val Leu Ala Ala Val Arg Glu
20           25           30
Ala Asp Val Val Val Gly Tyr Lys Tyr Tyr Phe Arg Phe Ile Arg Asp
35           40           45
Phe Val Arg Pro Asp Ala Glu Cys Ile Asp Thr Gly Met Lys Arg Glu
50           55           60
Arg Ala Arg Ala Glu Gln Ala Phe Glu Tyr Ala Glu Gln Gly Lys Thr
65           70           75           80
Val Cys Val Ile Ser Ser Gly Asp Ala Gly Ile Tyr Gly Met Thr Pro
85           90           95
Leu Ile Tyr Glu Met Lys Arg Glu Arg Gln Ser Asn Val Glu Ile Ile
100          105          110
Ala Leu Pro Gly Ile Ser Ala Phe Gln Lys Ala Ala Ser Leu Leu Gly
115          120          125
Ala Pro Ile Gly His Asp Phe Cys Val Ile Ser Leu Ser Asp Leu Met
130          135          140
Thr Pro Trp Glu Arg Ile Glu Arg Arg Ile Leu Ala Ala Ala Gln Ala
145          150          155          160
Asp Phe Val Thr Ala Val Tyr Asn Pro Lys Ser Asp Gly Arg Tyr Trp
165          170          175
Gln Ile Tyr Arg Leu Arg Glu Ile Phe Leu Arg Glu Gly Arg Ser Pro
180          185          190
Glu Thr Pro Val Gly Tyr Val Arg Gln Ala Gly Arg Glu Glu Gln Glu
195          200          205
Ile His Ile Thr Thr Leu Ala Ala Phe Asp Pro Glu Thr Val Asp Met
210          215          220
Phe Thr Val Val Leu Ile Gly Asn Ser Gln Thr Tyr Thr Phe Asn Gln
225          230          235          240
Asn Ile Ile Thr Pro Arg Gly Tyr Tyr Arg Glu Thr Arg Ser Glu Ala
245          250          255
Thr Gly Ile Gly Gln Asp Ile Met Ile Arg Ser Phe Arg Thr Ile Glu
260          265          270
Thr Glu Leu Lys Asn Arg Asp Ile Pro Leu Asp Arg Lys Trp Ala Leu
275          280          285
Leu His Ala Ile His Thr Thr Ala Asp Phe Glu Met Glu Arg Leu Leu
290          295          300
Tyr Thr Asp Pro Asn Ala Val Ala Ser Leu Tyr Asp Ala Ile Arg Thr
305          310          315          320
Gly Asn Leu Arg Thr Ile Val Thr Asp Val Thr Met Ala Ala Ser Gly
325          330          335
Ile Arg Lys Gly Ala Leu Gln Arg Leu Gly Val Glu Val Lys Cys Tyr
340          345          350
Leu Asn Asp Glu Arg Val Ala Glu Met Ala Thr Ser Lys Gly Ile Thr
355          360          365
Arg Thr Gln Ala Gly Ile Arg Leu Ala Val Glu Glu His Pro Asp Ala
370          375          380
Leu Phe Val Phe Gly Asn Ala Pro Thr Ala Leu Met Glu Leu Cys Asp
385          390          395          400
Leu Ile Arg Lys Glu Lys Ala Gln Pro Ala Gly Ile Val Ala Ala Pro

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## 2560

405 410 415  
 Val Gly Phe Val His Val Glu Glu Ser Lys His Met Thr Lys Pro Phe  
 420 425 430  
 Thr Arg Ile Pro Lys Leu Ile Val Glu Gly Arg Lys Gly Gly Ser Asn  
 435 440 445  
 Leu Ala Ala Thr Leu Val Asn Ala Ile Leu Cys Tyr Pro Asp Ala Glu  
 450 455 460  
 Gln Leu Arg Pro Gly Arg Asp Val  
 465 470

<210> 5842  
 <211> 196  
 <212> PRT  
 <213> B.fragilis

<400> 5842  
 Ser Arg Ile Phe Ile Pro Met Asn Ile Ile Lys Thr Ser Ile Glu Gly  
 1 5 10 15  
 Leu Val Ile Leu Glu Pro Arg Leu Phe Gln Asp Asp Arg Gly Tyr Phe  
 20 25 30  
 Phe Glu Ser Phe Asn Gln Gly Glu Phe Glu Ser Asn Val Cys Gln Thr  
 35 40 45  
 Thr Phe Val Gln Asp Asn Glu Ser Lys Ser Ser Tyr Gly Val Ile Arg  
 50 55 60  
 Gly Leu His Phe Gln Lys Pro Pro Phe Ala Gln Ser Lys Leu Val Arg  
 65 70 75 80  
 Val Ile Lys Gly Ala Val Leu Asp Val Ala Val Asp Ile Arg Lys Gly  
 85 90 95  
 Ser Pro Thr Phe Gly Lys His Val Ser Val Glu Leu Thr Glu Asp Asn  
 100 105 110  
 His Arg Gln Phe Phe Ile Pro Arg Gly Phe Ala His Gly Phe Ser Val  
 115 120 125  
 Leu Ser Glu Glu Val Ile Phe Gln Tyr Lys Cys Asp Asn Phe Tyr His  
 130 135 140  
 Pro Glu Ala Glu Gly Ala Ile Ala Trp Asn Asp Pro Asp Leu Asn Ile  
 145 150 155 160  
 Asp Trp Lys Ile Pro Gln Asp Arg Val Ile Leu Ser Gly Lys Asp Tyr  
 165 170 175  
 Thr His Pro Leu Leu His Asn Ile Glu Leu Gln Phe Asp Ile Asn Asn  
 180 185 190  
 Thr Leu Tyr Glu  
 195

<210> 5843  
 <211> 140  
 <212> PRT  
 <213> B.fragilis

<400> 5843  
 Ser Met Ile Phe Met Ala Thr Thr Phe Asp Ile Gln Leu Pro His Tyr  
 1 5 10 15  
 Pro Arg Gly Phe His Leu Ile Thr Arg Asp Ile Leu Ser Leu Leu Pro  
 20 25 30  
 Asp Leu Pro Glu Asn Gly Leu Leu Val Val Phe Ile Lys His Thr Ser  
 35 40 45  
 Ala Gly Ile Thr Ile Asn Glu Asn Ala Asp Pro Asp Val Arg His Asp  
 50 55 60  
 Phe Asn Thr Phe Phe Asn Lys Leu Val Pro Asp Gly Ala Pro Tyr Phe  
 65 70 75 80



Val His Thr Leu Glu Gly Pro Asp Asp Met Ser Ala His Ile Lys Ala  
                   85                  90                  95  
 Ser Leu Ile Gly Thr Ser Val Ser Ile Pro Ile Arg Asn His Arg Leu  
                   100                  105                  110  
 Asn Leu Gly Thr Trp Gln Gly Ile Tyr Leu Cys Glu Phe Arg Asp Gly  
                   115                  120                  125  
 Gly Asp Lys Arg Lys Leu Ser Ile Thr Ile Leu Glu  
           130                  135                  140

<210> 5844

<211> 156

<212> PRT

<213> B.fragilis

<400> 5844

Pro Gly Gly Met Leu Arg Tyr Ser Gly Val Pro Lys Glu His Pro Asp  
 1                  5                  10                  15  
 Val Asn Asp Met Thr Thr Ser Ala Ser Ile Glu Ser Ser Met Glu Arg  
                   20                  25                  30  
 Ser Gln Ser Ile Leu Ser Ser Ser Ala Leu Asn Trp Tyr Ala Leu Arg  
                   35                  40                  45  
 Ile Thr Tyr Gly Arg Glu Leu Ala Leu Gln Glu Tyr Leu Asn Ser Glu  
           50                  55                  60  
 Gly Ile Glu Asn Phe Ile Pro Met His Tyr Glu Tyr Thr Ile Lys Asn  
                   65                  70                  75                  80  
 Glu Arg Arg Val Arg Lys Leu Val Pro Ala Val His Asn Leu Val Phe  
                   85                  90                  95  
 Val Arg Ser Ser Arg Ser Cys Ile Asp Ala Ile Lys Glu Ser Arg Ser  
                   100                  105                  110  
 Ala Thr Leu Pro Ile Arg Tyr Ile Met Asp Arg Glu Tyr His Arg Pro  
                   115                  120                  125  
 Ile Ile Val Pro Asp Ser Gln Met Arg Asn Phe Met Ala Val Ser Ala  
           130                  135                  140  
 Asn Tyr Asp Glu Ser Leu Leu Tyr Phe Glu Pro Phe  
   145                  150                  155

<210> 5845

<211> 436

<212> PRT

<213> B.fragilis

<400> 5845

Ser Leu Ile Ile Asn His Met Ser Val Lys Gly Phe Phe Phe Ile Leu  
 1                  5                  10                  15  
 Val Phe Phe Leu Val Ala Ile Met Gly Phe Leu Ile Tyr Ile Ser Glu  
                   20                  25                  30  
 Thr Val Val Val Lys Tyr Leu Tyr Ile Ala Glu Ala Leu Met Leu Leu  
                   35                  40                  45  
 Leu Met Leu Tyr Leu Ile Leu Phe Tyr Arg Lys Ile Val Lys Pro Met  
           50                  55                  60  
 Asn Thr Ile Gly Ser Gly Met Glu Leu Leu Arg Glu Gln Asp Phe Ser  
           65                  70                  75                  80  
 Ser Arg Leu Ser His Val Gly Gln Gln Glu Ala Asp Arg Val Val Asn  
                   85                  90                  95  
 Val Phe Asn Arg Met Met Glu Gln Leu Lys Asn Glu Arg Leu Arg Leu  
                   100                  105                  110  
 Arg Glu Gln Asn His Phe Leu Asp Leu Met Ile Asn Ala Ser Pro Met  
                   115                  120                  125  
 Gly Val Ile Ile Met Thr Leu Asp Glu Glu Val Ser Gln Leu Asn Pro

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      130              135              140
Met Ala Met Lys Met Met Gly Val Arg Pro Glu Glu Ala Glu Gly Arg
145              150              155              160
Lys Leu Ser Glu Ile Asp Ser Pro Leu Ala Leu Glu Leu Ala Ala Ile
      165              170              175
Pro Asn Gly Ala Thr Ser Thr Val Arg Leu Asn Asp Ser Ser Ile Tyr
      180              185              190
Lys Cys Thr His Ser Ser Phe Val Asp Arg Gly Phe Gln His Pro Phe
      195              200              205
Tyr Leu Met Glu Gly Leu Thr Asp Glu Val Met Lys Ala Glu Lys Lys
      210              215              220
Ala Tyr Glu Lys Val Ile Arg Met Ile Ala His Glu Val Asn Asn Thr
225              230              235              240
Thr Ala Gly Ile Thr Ser Thr Leu Asp Thr Val Glu Gln Ala Leu Tyr
      245              250              255
Glu Ser Glu Gly Met Glu Asp Ile Cys Asp Val Met Arg Val Cys Thr
      260              265              270
Glu Arg Cys Phe Ser Met Ser His Phe Ile Thr Arg Phe Ala Asp Val
      275              280              285
Val Lys Ile Pro Glu Pro Arg Phe Thr Pro Thr Asn Leu Asn Asp Leu
      290              295              300
Ala Phe Thr Cys Lys Arg Phe Met Glu Gly Met Cys Asn Asp Arg Asn
305              310              315              320
Ile Arg Leu Gln Leu Ile Cys Asp Glu Ser Leu Asp Asp Val Lys Leu
      325              330              335
Asp Ala Ser Leu Phe Glu Gln Val Leu Val Asn Ile Ile Lys Asn Ala
      340              345              350
Ala Glu Ser Ile Gly Gln Asp Gly Gln Ile Ile Ile Arg Thr Ser Leu
      355              360              365
Pro Thr Ala Ile Glu Val Val Asp Asn Gly Pro Gly Ile Ser Lys Glu
      370              375              380
Thr Glu Ala Lys Leu Phe Ser Pro Phe Phe Ser Thr Lys Pro Asn Gly
385              390              395              400
Gln Gly Ile Gly Leu Ile Phe Ile Arg Glu Val Leu Ser Arg His Gly
      405              410              415
Cys Thr Phe Ser Leu Arg Thr Tyr Ala Asp Gly Leu Thr Arg Phe Arg
      420              425              430
Ile Leu Phe Pro
      435

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&lt;210&gt; 5846

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5846

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Val Tyr Leu Ile Lys Thr Thr Lys Lys Met Lys Lys Ile Val Leu Phe
1              5              10              15
Leu Phe Val Ala Ile Ala Thr Leu Ser Val Lys Ala Gln Asp Leu Tyr
      20              25              30
Met Gly Gly Thr Val Gly Leu Trp Arg Asn Asp Asp Ala Asn Thr Thr
      35              40              45
Ser Phe Lys Leu Ala Pro Glu Ile Gly Tyr Asn Leu Ser Glu Gln Trp
      50              55              60
Ala Leu Gly Val Glu Leu Gln Phe Asn His Glu Ile Gln Gly Ala Tyr
      65              70              75              80
Leu Asp Lys His Ile Cys His Cys Ser Leu Arg Thr Phe Phe Leu Leu
      85              90              95

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<210> 5847  
 <211> 153  
 <212> PRT  
 <213> B.fragilis

<400> 5847

Asn	Ile	Lys	Met	Met	Glu	Asn	Tyr	Lys	Gln	Asn	Tyr	Ile	His	Lys	Pro
1			5					10					15		
Tyr	Leu	Phe	Leu	Ala	Ile	Leu	Phe	Ser	Leu	Leu	Ser	Cys	Gln	Lys	Glu
		20						25				30			
Val	Val	Ser	Lys	Val	Thr	Phe	Glu	Arg	Lys	Leu	Ser	Gly	Ile	Lys	Pro
		35					40					45			
Glu	Thr	Glu	Phe	Arg	Leu	Asp	Ser	Leu	Arg	Asn	Asp	Lys	Trp	Gln	Lys
	50					55				60					
Cys	Tyr	Ile	Ile	Pro	Pro	Tyr	Gln	Gln	Tyr	Asn	Ser	Ala	Leu	Asn	Arg
65				70						75				80	
Ile	Lys	Leu	Arg	Lys	His	Asp	Leu	Asn	Lys	Ile	Lys	Glu	Asn	Ala	Ile
				85					90				95		
Ser	Asp	Gly	Ile	Asn	Thr	Phe	Val	Phe	Ile	Asn	Asn	Asp	Gly	Ser	Ile
		100						105					110		
Ser	Ile	Glu	Thr	Val	Ser	Arg	Ser	Ile	Ile	Asp	Ile	Gln	Asp	Thr	Leu
	115						120					125			
Ser	Asp	Ser	Ile	Phe	Leu	Phe	Tyr	Pro	Thr	Thr	Ile	Met	Lys	Met	Asp
	130					135					140				
Ser	Lys	Arg	Lys	Ile	Ile	Asp	Ile	Lys							
145					150										

<210> 5848  
 <211> 395  
 <212> PRT  
 <213> B.fragilis

<400> 5848

Thr	Ile	Lys	Met	Arg	Lys	Val	Leu	Ser	Phe	Ser	Ala	Phe	Leu	Ile	Ile
1			5					10					15		
Gly	Leu	Leu	Leu	Ser	Gln	Tyr	Leu	Pro	Leu	Leu	Ala	Gly	Glu	Gly	Tyr
		20						25				30			
Ala	Thr	Val	Lys	Ile	Val	Ser	Asn	Ile	Leu	Leu	Tyr	Ile	Cys	Leu	Ser
		35					40					45			
Phe	Ile	Met	Ile	Asn	Val	Gly	Arg	Glu	Phe	Glu	Val	Asp	Lys	Thr	Arg
	50					55				60					
Trp	Arg	Ser	Tyr	Ala	Gly	Asp	Tyr	Phe	Ile	Ala	Met	Ala	Thr	Ala	Ala
65				70					75					80	
Met	Pro	Trp	Phe	Leu	Ile	Ala	Ile	Tyr	Tyr	Val	Phe	Val	Leu	Leu	Pro
			85					90					95		
Pro	Glu	Phe	Trp	Asn	Ser	Trp	Glu	Ala	Trp	Lys	Glu	Asn	Leu	Leu	Leu
		100						105					110		
Ser	Arg	Phe	Ala	Ala	Pro	Thr	Ser	Ala	Gly	Ile	Leu	Phe	Thr	Met	Leu
		115				120						125			
Ala	Ala	Ile	Gly	Leu	Lys	Ser	Ser	Trp	Ile	Tyr	Lys	Lys	Ile	Gln	Val
	130					135					140				
Leu	Ala	Ile	Phe	Asp	Asp	Leu	Asp	Thr	Ile	Leu	Leu	Met	Ile	Pro	Leu
145				150					155					160	
Gln	Ile	Met	Met	Ile	Gly	Leu	Arg	Trp	Gln	Leu	Ile	Val	Val	Val	Phe
			165					170					175		
Ile	Val	Phe	Leu	Leu	Leu	Ser	Leu	Gly	Trp	Lys	Gln	Leu	Gly	Arg	Tyr
		180					185					190			
Asn	Trp	Arg	Gln	Asp	Trp	Lys	Ala	Ile	Met	Gly	Tyr	Ser	Val	Leu	Val
		195					200					205			

Phe Val Ala Thr Gln Ala Val Tyr Tyr Phe Ser Lys Gln Leu Tyr Gly  
 210 215 220  
 Glu Glu Gly Ser Ile His Ile Glu Val Leu Leu Pro Ala Phe Val Leu  
 225 230 235 240  
 Gly Met Ile Met Lys His Lys Glu Ile Asp Thr Pro Val Glu His Lys  
 245 250 255  
 Val Ser Thr Gly Val Ser Phe Leu Phe Met Phe Leu Val Gly Met Ser  
 260 265 270  
 Met Pro His Phe Ile Gly Val Asn Phe Ala Glu Thr His Ala Gly Thr  
 275 280 285  
 His Ser Val Thr Gly Ser Gln Glu Met Met Ser Trp Gly Met Ile Ala  
 290 295 300  
 Leu His Val Leu Ile Val Ser Leu Leu Ser Asn Ile Gly Lys Leu Phe  
 305 310 315 320  
 Pro Val Phe Phe Tyr Arg Asp Arg Lys Phe Ser Glu Arg Leu Ala Leu  
 325 330 335  
 Ser Ile Gly Met Phe Thr Arg Gly Glu Val Gly Ala Gly Val Ile Phe  
 340 345 350  
 Ile Ala Leu Gly Tyr Asn Leu Gly Gly Pro Ala Leu Val Ile Ser Val  
 355 360 365  
 Leu Thr Ile Val Leu Asn Leu Ile Leu Thr Gly Ile Phe Val Leu Trp  
 370 375 380  
 Val Lys Lys Leu Ala Leu Arg Ser Tyr Thr Thr  
 385 390 395

&lt;210&gt; 5849

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5849

Ser Lys Lys Ile Asn Met Ala Thr Ile Tyr Asp Gly Ile Asn Tyr Phe  
 1 5 10 15  
 Pro Val Gly Val Asn Phe Met Glu Glu Asn Ala Met Glu Val Ile Glu  
 20 25 30  
 Ala Lys Tyr Gly Ile Lys Gly Ser Ala Ile Val Leu Lys Leu Leu Cys  
 35 40 45  
 Lys Ile Tyr Lys Glu Gly Tyr Phe Ile Arg Trp Asp Glu Glu Gln Cys  
 50 55 60  
 Leu Ile Phe Ala Asn Lys Ala Gly Arg Glu Val Gln Ala Ala Glu Val  
 65 70 75 80  
 Gln Gly Ile Ile Glu Ile Leu Phe Ile Lys Gly Ile Met Asp Lys Asn  
 85 90 95  
 Ser Tyr Leu Glu Asn Gly Ile Leu Thr Ser Glu Asn Ile Gln Lys Val  
 100 105 110  
 Trp Met Glu Ala Thr Lys Arg Arg Lys Arg Glu Leu Ser Glu Leu Pro  
 115 120 125  
 Tyr Leu Met Val Lys Thr Glu Lys Glu Lys Glu Asn Asp Lys Pro Glu  
 130 135 140  
 Lys Glu Ser Asp Lys Pro Asp Asn Ala Ser Thr Gln Gln Glu Ile Glu  
 145 150 155 160  
 Arg Pro Lys Pro Leu Lys Glu Gly Lys Val Ala Gly Ser Thr Gly Asp  
 165 170 175  
 Val Ala Val Ser Pro Gly Asn Val Val His Asp Val Ala Val Asn Ala  
 180 185 190  
 Lys Asn Ala Cys Asn Ser Gly Gln Ser Lys Val Lys Lys Ser Arg Ala  
 195 200 205  
 Lys Glu Asn Lys Glu Leu Pro Pro Ser Val Pro Pro Glu Gly Lys Glu  
 210 215 220

Glu Glu Arg Lys Glu Asp Ser Val Ser Leu Pro Ile Pro Gly Tyr Ala  
 225 230 235 240  
 Phe Asn Thr Met Thr His Asn Tyr Pro Gly Leu Thr Asp Thr Leu Gln  
 245 250 255  
 Arg Leu Gly Ile Asn Glu Val Ser Glu Val Asn Ala Ile Leu Arg Leu  
 260 265 270  
 Ser Asp Tyr Gly Arg Lys Gly Thr Thr Val Trp Arg Leu Ile Ala Asn  
 275 280 285  
 Thr Cys Trp Ser Asp Ile Gly Ala Lys Gly Arg Tyr Leu Ile Ala Ala  
 290 295 300  
 Leu Asn Arg Ala Lys Arg Lys  
 305 310

<210> 5850

<211> 266

<212> PRT

<213> B.fragilis

<400> 5850

Tyr Met Lys Ile Ser Val Ile Ile Pro Cys Phe Asn Gln Gly Lys Tyr  
 1 5 10 15  
 Leu Ala Glu Ala Leu Asp Ser Val Val Met Gln Thr Phe Ser Asp Trp  
 20 25 30  
 Glu Cys Ile Ile Ile Asn Asp Gly Ser Ile Asp Asn Ser Glu Asn Val  
 35 40 45  
 Ala Leu Ser Tyr Val Glu Lys Asp Pro Arg Phe His Tyr Ile Cys Gln  
 50 55 60  
 Lys Asn Gln Gly Val Cys Ile Ala Arg Asn Arg Gly Ile Ala Met Ala  
 65 70 75 80  
 Gln Gly Glu Tyr Ile Leu Cys Leu Asp Gly Asp Asp Lys Ile Ser Arg  
 85 90 95  
 Asn Phe Leu Glu Cys Met Tyr Pro Ile Leu Asp Glu Glu Gln Ser Val  
 100 105 110  
 Lys Val Val Thr Ser Thr Val Val Gln Phe Gly Lys Ile His Arg Val  
 115 120 125  
 Ile Pro Ser Thr Asp Tyr Ser Leu Glu Lys Leu Met Gly Arg Asn Leu  
 130 135 140  
 Phe Val Ile Thr Ser Met Phe Arg Lys Val Asp Phe Glu Lys Thr Glu  
 145 150 155 160  
 Gly Phe Asn Glu Asn Met Ala Lys Gly Leu Glu Asp Trp Asp Phe Trp  
 165 170 175  
 Leu Ser Met Leu Glu Ser Gly Gly Glu Val Val Cys Ala Lys Gln Ala  
 180 185 190  
 Ile Phe Tyr Tyr Arg Ile Arg Gly Tyr Ser Arg Asn Lys Ser Ile Ser  
 195 200 205  
 Glu Asp Tyr Tyr Ser Leu Leu Arg Lys Thr Ile Tyr Glu Asn His Lys  
 210 215 220  
 His Leu Phe Ser Thr Ile Phe Phe Asn Pro Lys Tyr Ser Phe Glu Tyr  
 225 230 235 240  
 Tyr Leu Ile Ala Lys Ser Tyr Glu Tyr Lys Leu Gly Lys Leu Leu Phe  
 245 250 255  
 Arg Pro Ile Arg Phe Leu Tyr Asp Leu Phe  
 260 265

<210> 5851

<211> 254

<212> PRT

<213> B.fragilis

&lt;400&gt; 5851

Lys Met Lys Ile Ile Thr Tyr Asn Val Asn Gly Leu Arg Ala Ala Val  
 1 5 10 15  
 Asn Lys Gly Leu Pro Glu Trp Leu Ala Glu Glu Asn Pro Asp Val Leu  
 20 25 30  
 Cys Leu Gln Glu Thr Lys Leu Gln Pro Glu Gln Tyr Pro Ala Glu Ala  
 35 40 45  
 Phe Glu Ala Leu Gly Tyr Lys Ala Tyr Leu Tyr Ser Ala Gln Lys Lys  
 50 55 60  
 Gly Tyr Ser Gly Val Ala Ile Leu Thr Lys Val Glu Pro Asp His Ile  
 65 70 75 80  
 Glu Tyr Gly Met Gly Ile Glu Glu Tyr Asp Asn Glu Gly Arg Phe Ile  
 85 90 95  
 Arg Ala Asp Phe Gly Asp Leu Ser Val Val Ser Val Tyr His Pro Ser  
 100 105 110  
 Gly Thr Ser Gly Asp Glu Arg Gln Ala Phe Lys Met Val Trp Leu Glu  
 115 120 125  
 Ala Phe Gln Lys Tyr Val Thr Glu Leu Arg Lys Ser Arg Pro Asn Leu  
 130 135 140  
 Ile Leu Cys Gly Asp Tyr Asn Ile Cys His Glu Pro Ile Asp Ile His  
 145 150 155 160  
 Asp Pro Val Arg Asn Ala Thr Asn Ser Gly Phe Leu Pro Glu Glu Arg  
 165 170 175  
 Glu Trp Met Thr Arg Phe Leu Ser Ala Gly Phe Ile Asp Ser Phe Arg  
 180 185 190  
 Thr Leu Tyr Pro Gln Lys Gln Glu Tyr Thr Trp Trp Ser Tyr Arg Phe  
 195 200 205  
 Asn Ser Arg Ala Lys Asn Lys Gly Trp Arg Ile Asp Tyr Cys Met Val  
 210 215 220  
 Ser Glu Pro Val Arg Ser Leu Leu Lys Glu Ala Val Ile Leu Asn Asn  
 225 230 235 240  
 Ala Val His Ser Asp His Cys Pro Met Ala Leu Glu Ile Gly  
 245 250

&lt;210&gt; 5852

&lt;211&gt; 193

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5852

Asn Tyr Arg Ile Met Lys Arg Asn Leu Val Phe Val Leu Phe Ala Leu  
 1 5 10 15  
 Val Ser Val Val Gly Phe Ser Gln Val Ser Trp Asn Ala Lys Val Gly  
 20 25 30  
 Met Asn Ile Ser Asn Phe Thr Gly Asp Phe Asp Met Asn Ala Lys Val  
 35 40 45  
 Gly Phe Lys Ile Gly Gly Gly Met Glu Tyr Gly Phe Asn Glu Ile Trp  
 50 55 60  
 Ser Leu Gln Pro Ser Leu Phe Val Ser Ser Lys Gly Ala Lys Lys Asp  
 65 70 75 80  
 Glu Leu Ser Val Asn Ala Val Tyr Leu Glu Leu Pro Val Met Ala Ala  
 85 90 95  
 Ala Arg Phe Lys Val Ala Asp Asn Thr Asn Ile Val Leu Ser Ala Gly  
 100 105 110  
 Pro Tyr Phe Ala Cys Gly Ile Ala Gly Asn Ser Lys Val Asp Leu Gly  
 115 120 125  
 Lys Gly Arg Leu Glu Val Asp Thr Phe Gly Asp Asp Gly Leu Leu Lys  
 130 135 140  
 Arg Gly Asp Val Gly Leu Gly Ile Gly Val Ala Ala Glu Phe Gly Lys

145 150 155 160  
 Ile Ile Ala Gly Leu Asp Gly Gln Phe Gly Phe Val Asp Val Met Asp  
 165 170 175  
 Asn Val Asn Gly Lys Asn Leu Asn Leu Ser Ile Ser Val Gly Tyr Lys  
 180 185 190  
 Phe

<210> 5853  
 <211> 956  
 <212> PRT  
 <213> B.fragilis

<400> 5853  
 Thr Asp Thr Phe Val Val Leu Phe Tyr Phe Phe Cys Arg Ser Leu Tyr  
 1 5 10 15  
 Val Val Arg Arg His His Val Thr Val Asp Gly Thr Asp Asp Leu Gly  
 20 25 30  
 Arg Tyr Leu Val Pro Gly Pro Ser Val Tyr Glu Asn Pro Ala Gly Arg  
 35 40 45  
 Gly Ile Ala Arg Arg Ile Lys Ala Tyr Arg Asn Ile Leu Ser Ser Ile  
 50 55 60  
 Cys Val Val Phe Lys Ile Ile Thr Tyr Ile Cys Val His Asn Pro Asp  
 65 70 75 80  
 Thr Thr Gln Ile Phe Ala Met Asn Lys Arg Leu Tyr Thr Ile Phe Leu  
 85 90 95  
 Ile Ser Val Phe Leu Leu Leu Pro Gly Phe Ser Thr Ala Ala Glu Arg  
 100 105 110  
 Ile Tyr Asn Val Leu Phe Val Gln Ser Tyr Ala Pro Glu Thr Pro Trp  
 115 120 125  
 His Asn Asp Leu Val Arg Gly Leu Lys Asp Gly Phe Gly Glu Ser Gly  
 130 135 140  
 Leu Lys Val Asn Ile Thr Thr Glu Phe Leu Asp Ala Asn Phe Trp Thr  
 145 150 155 160  
 Tyr Gln Ser Glu Lys Leu Ile Met Arg Arg Phe Cys Glu Arg Ala Arg  
 165 170 175  
 Glu Arg Gly Thr Asp Leu Ile Val Thr Val Ser Asp Glu Ala Phe His  
 180 185 190  
 Thr Leu Leu Thr Cys Gly Asp Ser Leu Ala Leu Gln Leu Pro Val Val  
 195 200 205  
 Phe Phe Asn Ile Lys Tyr Pro Glu Gly Ser Leu Ile Asp Ser Leu Pro  
 210 215 220  
 Asn Val Cys Gly Tyr Thr Ala Asn Pro Asp Phe Gly Glu Leu Leu Arg  
 225 230 235 240  
 Gln Ala Ser Arg Leu Phe Pro Thr Arg Thr Glu Val Val Cys Ile Ser  
 245 250 255  
 Asp Asn Ser Leu Leu Ser Ser Lys Gly Lys Asp Asp Phe Met Asn Glu  
 260 265 270  
 Trp Glu Gly Phe Val Glu Glu His Pro Glu Tyr Thr Val Thr Phe Tyr  
 275 280 285  
 Asn Ser Gln Thr Asp Thr Thr Asn Lys Ile Ile Ala Ser Thr Cys Tyr  
 290 295 300  
 Pro Arg Asn Thr His Lys Thr Leu Ile Ile Ala Pro Lys Trp Ser Ser  
 305 310 315 320  
 Phe Met Ser Phe Ile Gly Arg Asn Ser Lys Ala Pro Phe Phe Ser Cys  
 325 330 335  
 Glu Asn Leu Ala Leu Thr Asn Gly Ala Phe Gly Ala Tyr Asp Ala Asp  
 340 345 350  
 Ser Tyr Ala Ser Ala His Glu Val Gly Arg Thr Ala Ala Asp Val Leu





Leu Val Leu Lys Leu Pro Glu Asn Ser Lys Lys Tyr Leu Val Thr Asp  
 835 840 845  
 Asn Val Arg Leu Gln Gln Val Val Asn Asn Leu Ile Asn Asn Ala Val  
 850 855 860  
 Lys Phe Thr Thr Gln Gly Ser Ile Thr Phe Gly Tyr Thr Glu Glu Glu  
 865 870 875 880  
 Pro Gly Tyr Thr Ser Leu Phe Val Glu Asp Thr Gly Lys Gly Ile Ser  
 885 890 895  
 Glu Asp Gly Leu Arg His Ile Phe Glu Arg Phe Tyr Lys Val Asp Ser  
 900 905 910  
 Phe Thr Gln Gly Ala Gly Leu Gly Leu Ser Ile Cys Gln Thr Ile Val  
 915 920 925  
 Gly Arg Leu Asn Gly Thr Ile Thr Val Ala Ser Glu Glu Gly His Gly  
 930 935 940  
 Thr Arg Phe Thr Val Arg Leu Pro Asp Ile Cys Glu  
 945 950 955

<210> 5854

<211> 381

<212> PRT

<213> B.fragilis

<400> 5854

Leu Thr Met Ile Asp Phe Thr Gln Phe Pro Ser Pro Cys Tyr Ile Met  
 1 5 10 15  
 Glu Glu Glu Leu Leu Arg Lys Asn Leu Ser Leu Ile Lys Ser Val Ala  
 20 25 30  
 Asp Asp Ala Gly Val Glu Ile Ile Leu Ala Phe Lys Ser Phe Ala Met  
 35 40 45  
 Trp Arg Ser Phe Pro Ile Phe Arg Glu Tyr Ile Gly His Ser Thr Ala  
 50 55 60  
 Ser Ser Val Tyr Glu Ala Arg Leu Ala Leu Glu Glu Phe Gly Ser Lys  
 65 70 75 80  
 Ala His Thr Tyr Ser Pro Ala Tyr Thr Glu Ala Asp Phe Pro Glu Ile  
 85 90 95  
 Met Arg Cys Ser Ser His Ile Thr Phe Asn Ser Leu Ser Gln Phe Ser  
 100 105 110  
 Arg Phe Tyr Pro Leu Thr Val Ala Glu Gly Ser Gly Ile Ser Cys Gly  
 115 120 125  
 Ile Arg Val Asn Pro Glu Tyr Ser Glu Val Glu Thr Glu Leu Tyr Asn  
 130 135 140  
 Pro Cys Ala Pro Gly Thr Arg Phe Gly Ile Thr Ala Asp Leu Leu Pro  
 145 150 155 160  
 Ala Arg Leu Pro Gln Gly Ile Glu Gly Phe His Cys His Cys His Cys  
 165 170 175  
 Glu Ser Ser Ser Phe Glu Leu Glu Arg Thr Leu Gln His Leu Glu Glu  
 180 185 190  
 Lys Phe Ser Pro Trp Phe Ser Gln Ile Lys Trp Leu Asn Leu Gly Gly  
 195 200 205  
 Gly His Leu Met Thr Arg Lys Asp Tyr Asp Thr Arg His Leu Thr Gly  
 210 215 220  
 Leu Leu Gln Gly Leu Lys Lys Arg Tyr Pro His Leu Arg Ile Ile Leu  
 225 230 235 240  
 Glu Pro Gly Ser Ala Phe Thr Trp Gln Thr Gly Val Leu Thr Ser Glu  
 245 250 255  
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 260 265 270  
 Val Ser Phe Thr Cys His Met Pro Asp Cys Leu Glu Met Pro Tyr Gln  
 275 280 285

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Pro Ser Val Arg Gly Ala Val Met Gly Glu Glu Gly Pro Phe Val Tyr
 290                295                300
Arg Leu Gly Gly Asn Ser Cys Leu Ser Gly Asp Tyr Met Gly Ser Trp
305                310                315                320
Ser Phe Asp His Glu Leu Gln Ala Gly Glu Arg Ile Val Phe Glu Asp
                325                330                335
Met Ile His Tyr Thr Met Val Lys Thr Asn Met Phe Asn Gly Ile His
                340                345                350
His Pro Ala Ile Ala Leu Trp Thr Ala Asp Gly Lys Ala Glu Ile Phe
                355                360                365
Arg Gln Phe Ser Tyr Glu Asp Tyr Arg Asp Arg Met Ser
 370                375                380

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&lt;210&gt; 5855

&lt;211&gt; 644

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5855

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Val Asn Val Ile Glu Glu Ala Gly Lys Pro Tyr Tyr Tyr Ser Thr Lys
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Gly Asp Glu Gln Asp Ile Tyr Leu His His Gly Ile Arg Leu Ser Gly
                35                40                45
Ala Met Thr Arg Arg Thr Leu Lys Ala Phe Cys Arg Gln Asn Asp Ile
                50                55                60
Arg Leu Leu Ile Asp Ala Ala His Pro Phe Ala Glu Lys Leu His Asp
65                70                75                80
Thr Val Thr Asp Val Ala His Asp Leu Gly Ile Pro Cys Ile Arg Tyr
                85                90                95
Glu Arg Ile Tyr Asp Arg Ser Tyr Leu Asn Pro Ile Phe Glu Asp Asn
                100                105                110
Cys Asp Pro Asp Asp Leu Pro Phe Lys Phe Glu Tyr Asp Asn Arg Asp
                115                120                125
Leu Leu Arg Glu Leu Lys Lys Glu Lys Glu Gly His Arg Phe Leu Phe
                130                135                140
Leu Thr Gly Val Gln Ser Ile Ala Arg Phe Lys Ser Leu Trp Thr Lys
145                150                155                160
Lys Lys Tyr Glu Cys Tyr Phe Arg Ile Leu Asp Arg Asp Ser Ser Arg
                165                170                175
Glu Ile Ala Arg Gln Ala Gly Phe Pro Glu Asp His Leu Val Tyr Tyr
                180                185                190
His Pro Glu Thr Glu Asn Leu Pro Gln Leu Leu Gln Glu Leu Ser Pro
                195                200                205
Gln Ala Val Val Leu Lys Glu Ser Gly Lys Ser Gly Gly Phe Thr Glu
                210                215                220
Lys Lys Asp Met Ile Leu Glu Tyr Gly Ala Thr Pro Tyr Ile Leu Leu
225                230                235                240
His Pro Glu Leu Glu Tyr Tyr Asp Ile Thr Val Asp Gly Val Asn Ser
                245                250                255
Leu Arg Arg Thr Leu Glu Lys Met Leu Pro Asp Tyr Phe Pro Leu Arg
                260                265                270
Ser Gly Leu Thr Thr Gly Ser Cys Ala Ala Ala Ala Ile Ala Ala
                275                280                285
Phe Arg Lys Leu Lys Asn Pro Ile Leu Glu Asp Phe Asn Arg Asn Ile
                290                295                300
His Thr Val Leu Pro Ser Gly Glu Thr Ile Glu Ile Pro Cys Gln Ser
305                310                315                320

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Val Ser Gly Thr Phe Ser Asp Glu Lys Ile Glu Val Ser Ala Thr Val  
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 Ile Lys Asp Gly Gly Asp Asp Pro Asp Val Thr Ser Gly Leu Pro Ile  
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 355 360 365  
 Ala Pro Val Gln Thr Pro Glu Thr Trp Glu Phe Val Phe His Gly Gly  
 370 375 380  
 Pro Gly Val Gly Thr Val Thr Leu Pro Gly Leu Gly Leu Glu Val Gly  
 385 390 395 400  
 Gly Pro Ala Ile Asn Ala Thr Pro Arg Gln Met Ile Ile Asp Asn Leu  
 405 410 415  
 Arg Asn Cys Ile Arg Tyr Tyr Tyr Arg Tyr Leu Pro Asn Val Pro Ile  
 420 425 430  
 His Val Thr Ile Ser Val Pro Gly Gly Glu Glu Val Ala Ala Arg Thr  
 435 440 445  
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 465 470 475 480  
 Arg Lys Glu Met Glu Val Ala Arg Ala Thr Gly Ala Cys Arg Ile Val  
 485 490 495  
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 500 505 510  
 Glu Leu Pro Pro Gln Ala Phe Val His Tyr Gly Asn Phe Ile Gly Glu  
 515 520 525  
 Thr Ile Gly Ile Ala Ala Glu Leu Gly Ile Ser Arg Leu Thr Leu Gly  
 530 535 540  
 Val Met Met Gly Lys Ala Val Lys Leu Ala Glu Gly His Leu Asp Thr  
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 His Ser Lys Lys Val Thr Met Asn Lys Glu Phe Leu Lys Glu Ile Ala  
 565 570 575  
 Arg Arg Cys Gly Cys Thr Pro Ser Ser Ile Glu Ala Ile Asp His Ile  
 580 585 590  
 Ile Leu Ala Arg Glu Leu Trp Asn Ile Leu Pro Glu Thr Glu Leu Gln  
 595 600 605  
 Ala Phe Cys Ser Leu Leu Ile Glu Gln Cys His Arg His Cys Asp Val  
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 Lys Ile Ile Gln

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&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5856

Leu Ser Tyr Val Ser Ser Ile Ala Pro Leu Pro Ile Lys Glu Val Ile  
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 Thr Gly Lys Trp Cys Arg Leu Met Lys Ser Phe Ser Lys Thr Ile Ser  
 20 25 30  
 Glu Leu Gln His Pro Ala Pro Lys Ser Asn Met Gly Arg Trp Asp Asp  
 35 40 45  
 Ser Ile Asn Asn Leu Ile Ser Ser Gln Ala Ile Lys Gly Leu Phe Lys  
 50 55 60  
 Ile Leu Ser Pro Glu Tyr Pro Ile Asn Val Ser  
 65 70 75

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 <211> 450  
 <212> PRT  
 <213> B.fragilis

<400> 5857

Phe	Gln	Arg	Val	Phe	Phe	Lys	Asn	Ile	Tyr	Asn	Phe	Leu	Gln	Leu	Asp
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Ala	Ala	Val	Ile	Tyr	Ser	Ser	Leu	Ser	Lys	Ile	Leu	Ser	Gly	Phe	Gly
			20					25					30		
Gly	Phe	Leu	Thr	Val	Tyr	Leu	Ile	Ala	Lys	Lys	Leu	Thr	Leu	Val	Glu
			35				40					45			
Gln	Gly	Tyr	Tyr	Tyr	Thr	Phe	Ile	Ser	Val	Leu	Tyr	Ile	Gln	Val	Phe
			50				55				60				
Phe	Glu	Leu	Gly	Leu	Asn	Ser	Ile	Ile	Thr	Gln	Phe	Val	Ala	His	Glu
65					70					75				80	
Lys	Ala	His	Leu	Asp	Trp	Lys	Gly	Lys	Asp	Asp	Leu	Val	Gly	Lys	Glu
				85					90					95	
Phe	His	Leu	Ser	Arg	Leu	Ala	Ser	Val	Leu	Arg	Leu	Cys	Val	Lys	Tyr
			100					105					110		
Tyr	Ser	Tyr	Leu	Ala	Ile	Gly	Leu	Leu	Ile	Val	Leu	Phe	Ile	Gly	Gly
			115				120						125		
Tyr	Val	Phe	Phe	Ser	Ile	Asn	Ser	Asn	Ile	Gly	Val	Ser	Trp	Lys	Ile
						135					140				
Pro	Trp	Leu	Leu	Leu	Cys	Val	Ser	Thr	Ser	Leu	Ser	Phe	Phe	Leu	Asn
145					150					155					160
Pro	Phe	Leu	Ser	Phe	Leu	Glu	Gly	Leu	Asn	Leu	Met	Lys	Glu	Val	Cys
				165					170					175	
Phe	Ile	Arg	Phe	Ile	Gln	Gln	Thr	Val	Ser	Leu	Leu	Ile	Leu	Trp	Val
			180					185						190	
Gly	Leu	Ile	Gly	Gly	Met	Lys	Leu	Tyr	Val	Gly	Gly	Cys	Ser	Ser	Leu
			195				200					205			
Ala	Gly	Gly	Val	Ala	Ile	Leu	Ile	Phe	Val	Ser	Tyr	Arg	Tyr	Arg	Ile
			210			215					220				
Leu	Phe	Leu	Asn	Ile	Tyr	Gly	Lys	Val	Thr	Ile	His	Phe	Ile	Asn	Tyr
225				230						235					240
Lys	Lys	Glu	Ile	Phe	Pro	Phe	Gln	Trp	Lys	Val	Ala	Val	Gly	Trp	Leu
				245					250					255	
Ser	Ser	Ser	Leu	Val	Phe	Gln	Phe	Phe	Asn	Pro	Ile	Leu	Phe	Ala	Thr
			260					265					270		
Ile	Gly	Ser	Ala	Ala	Ala	Gly	Gln	Leu	Gly	Met	Thr	Leu	Ser	Val	Ile
			275				280					285			
Asn	Gly	Val	Ser	Ser	Val	Ser	Met	Asn	Trp	Ile	Tyr	Thr	Lys	Val	Pro
			290			295					300				
Asn	Leu	Ser	Lys	Leu	Val	Ser	Leu	Arg	Asp	Phe	Lys	Glu	Leu	Asp	Lys
305				310						315					320
Ser	Phe	Ser	Lys	Ile	Leu	Ala	Val	Leu	Val	Leu	Leu	Ser	Cys	Met	Gly
			325					330						335	
Phe	Ile	Ile	Val	Ala	Leu	Cys	Leu	Ile	Gln	Phe	Asn	Ile	Leu	His	Ile
			340					345					350		
Ala	Ser	Lys	Leu	Leu	Pro	Met	Ser	Leu	Phe	Leu	Ile	Met	Ser	Leu	Ser
			355				360					365			
Ser	Val	Phe	Thr	Gln	Ile	Thr	Ser	Cys	Trp	Ala	Ile	Tyr	Phe	Arg	Cys
			370			375					380				
Phe	Lys	Lys	Glu	Pro	Phe	Leu	Arg	Val	Ser	Leu	Ile	Asn	Leu	Ala	Val
385				390						395					400
Val	Phe	Leu	Ile	Val	Phe	Pro	Cys	Thr	Leu	Tyr	Tyr	Arg	Leu	Ser	Gly
				405					410					415	

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Leu Val Leu Ser Tyr Ser Leu Ala Ala Leu Val Gly Leu Ile Leu Gly  
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 Trp Leu Leu Tyr Asn Asn Arg Ala Glu Phe Gln Lys Lys Tyr Val Leu  
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 Tyr Glu  
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<211> 61

<212> PRT

<213> B.fragilis

<400> 5858

Ser Leu Val Val Lys Leu Phe Val Gln Ser Arg Leu Phe Phe Thr Ile  
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 20 25 30  
 His Tyr Tyr Val Lys Leu Tyr Thr Lys Ile Ile Asn Thr Tyr Phe Leu  
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 Pro Phe Ser Leu Ile Arg Ser Ile His Leu Ser Ile Ile  
 50 55 60

<210> 5859

<211> 305

<212> PRT

<213> B.fragilis

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 Pro Ser Asn Tyr Pro Asp Glu Ile Glu Asp Lys Ile Gln Lys Tyr Arg  
 35 40 45  
 Lys Gln Gly Tyr Lys Leu Pro Pro Arg Lys Val Leu Arg Thr Pro Glu  
 50 55 60  
 Gln Ile Glu Gly Ile Arg Glu Ser Ala Lys Ile Asn Thr Ala Leu Leu  
 65 70 75 80  
 Asn His Ile Ala Glu Asn Ile Arg Glu Gly Met Ser Thr Glu Glu Ile  
 85 90 95  
 Asp Arg Leu Val Tyr Asp Phe Thr Thr Ser His Gly Ala Ile Pro Ala  
 100 105 110  
 Pro Leu Asn Tyr Glu Gly Phe Pro Lys Ser Val Cys Thr Ser Ile Asn  
 115 120 125  
 Asp Val Val Cys His Gly Ile Pro Ser Ser Thr Glu Ile Leu Lys Ser  
 130 135 140  
 Gly Asp Ile Ile Asn Val Asp Val Ser Thr Ile Tyr Asn Gly Tyr Phe  
 145 150 155 160  
 Ser Asp Ala Ser Arg Met Phe Met Ile Gly Glu Val Ser Pro Glu Lys  
 165 170 175  
 Gln Arg Leu Val Gln Val Thr Lys Glu Cys Met Glu Ile Gly Ile Ala  
 180 185 190  
 Ala Ala Gln Pro Trp Ala Arg Leu Gly Asp Val Gly Ala Ala Ile Gln  
 195 200 205  
 Glu His Ala Glu Lys Asn Gly Tyr Ser Val Val Arg Asp Leu Cys Gly  
 210 215 220  
 His Gly Val Gly Ile Lys Phe His Glu Glu Pro Asp Val Glu His Phe  
 225 230 235 240  
 Gly Arg Arg Gly Thr Gly Met Leu Ile Leu Pro Gly Met Thr Phe Thr

245 250 255  
 Ile Glu Pro Met Ile Asn Met Gly Thr Tyr Glu Val Phe Val Asp Ser  
 260 265 270  
 Ala Asp Asp Trp Thr Val Cys Thr Asp Asp Gly Leu Pro Ser Ala Gln  
 275 280 285  
 Trp Glu Asn Met Ile Leu Ile Thr Glu Thr Gly Asn Glu Ile Leu Thr  
 290 295 300  
 Tyr  
 305

<210> 5860  
 <211> 336  
 <212> PRT  
 <213> B.fragilis

<400> 5860  
 Cys Val Lys Leu Tyr Ile Val Leu Lys Asn Lys Phe Arg Asn Leu Phe  
 1 5 10 15  
 Leu Ala Phe Gly Ile Leu Ala Val Ile Ile Met Leu Phe Thr Phe Asp  
 20 25 30  
 Val Ser Tyr Asp Glu Leu Leu Asp Asn Leu Arg Arg Ala Gly Phe Tyr  
 35 40 45  
 Leu Pro Leu Val Leu Val Leu Trp Leu Phe Ile Tyr Leu Ile Asn Thr  
 50 55 60  
 Leu Ser Trp Tyr Ile Ile Leu Arg Ser Ser Gly Pro Val Asn Ser Leu  
 65 70 75 80  
 Ser Phe Ala Arg Leu Tyr Lys Phe Thr Val Ser Gly Phe Ala Leu Asn  
 85 90 95  
 Tyr Val Thr Pro Val Gly Leu Met Gly Gly Glu Pro Tyr Arg Ile Met  
 100 105 110  
 Glu Leu Thr Ser Tyr Val Gly Val Glu Arg Ala Thr Ser Ser Val Ile  
 115 120 125  
 Leu Tyr Val Met Met His Ile Phe Ser His Phe Cys Phe Trp Leu Ser  
 130 135 140  
 Ser Val Leu Ile Tyr Val Phe Phe Tyr Pro Val Gly Trp Gly Met Gly  
 145 150 155 160  
 Ile Val Leu Gly Leu Ile Thr Leu Phe Cys Leu Leu Val Thr Leu  
 165 170 175  
 Phe Ile Lys Gly Tyr Arg Asn Gly Met Ala Val Ala Cys Val Arg Leu  
 180 185 190  
 Gly Ser His Ile Pro Phe Leu Lys Lys Arg Ala Val Arg Phe Ala Glu  
 195 200 205  
 Leu His Lys Glu Lys Leu Glu Thr Ile Asp Arg Gln Ile Ala Leu Leu  
 210 215 220  
 His Gln Gln Arg Lys Ser Thr Phe Tyr Ser Ala Leu Gly Leu Glu Tyr  
 225 230 235 240  
 Thr Ala Arg Ile Val Gly Cys Leu Glu Val Trp Leu Ile Leu Asn Val  
 245 250 255  
 Leu Thr Thr Asp Val Ser Phe Val Gly Cys Ile Leu Ile Val Ala Phe  
 260 265 270  
 Ser Ser Leu Leu Ala Asn Leu Leu Phe Phe Leu Pro Met Gln Leu Gly  
 275 280 285  
 Gly Arg Glu Gly Gly Phe Ala Leu Ala Val Ala Gly Leu Ser Leu Ser  
 290 295 300  
 Gly Ala Tyr Gly Val Phe Ala Ala Leu Ile Thr Arg Val Arg Glu Met  
 305 310 315 320  
 Val Trp Ile Val Ile Gly Leu Val Leu Met Lys Ile Gly Asn Arg Arg  
 325 330 335

<210> 5861  
 <211> 282  
 <212> PRT  
 <213> B.fragilis

<400> 5861

```

Arg Pro Thr Ser Ser Val Phe Ser Val Ile Arg Glu Pro Thr Gly Glu
1          5          10          15
Thr Pro Glu Gln Leu Ala Ala Leu Leu Lys Glu Gly Thr Phe Met Val
          20          25          30
Ser Arg Asn Val Phe Glu Ser Arg Tyr Lys Ile Asp Leu Lys Asp Tyr
          35          40          45
Val Gly Lys Glu Phe Cys Leu Asp Gln Asp Thr Ala His Leu Ser Lys
          50          55          60
Leu Val Ala Ala Leu Gln Val Val Arg Tyr Asp Asp Phe Ser Ser Gly
65          70          75          80
Ala Tyr Ser Arg Ser Ala Val Ile Leu Leu Pro Glu Asn Arg Leu Ala
          85          90          95
Ser Gly Asn Glu Ile Cys Leu Arg Thr Asn Lys Asn Glu Ser Ala Ala
          100          105          110
Phe Ala Glu Gln Leu Met Lys Asp Ala Pro Ser Gln Tyr Arg Val Gly
          115          120          125
Asn Leu Phe Leu Thr Lys Val Ser Ser Phe Arg Asp Ile Arg His Thr
          130          135          140
Phe Gln Leu Asp Asp Val Asn Thr Leu Arg Asn Tyr Leu Val Gly Met
145          150          155          160
Gly Phe Leu Leu Leu Asn Ile Phe Leu Gly Leu Leu Gly Thr Phe Trp
          165          170          175
Phe Arg Thr Gln Gln Arg Lys Gly Glu Met Ala Leu Met Met Ala Val
          180          185          190
Gly Gly Ser Lys Gln Ser Val Phe Phe Arg Leu Leu Ser Glu Gly Trp
          195          200          205
Leu Met Leu Leu Leu Val Thr Pro Leu Ala Ile Gly Val Asp Phe Tyr
          210          215          220
Ile Ala Lys Ser Glu Leu Thr Pro Ser Trp Tyr Phe Ser Thr Phe Ser
225          230          235          240
Val Gly Arg Phe Met Leu Cys Glu Gly Ile Thr Leu Leu Leu Met Ala
          245          250          255
Leu Met Ile Leu Ala Gly Ile Trp Phe Pro Ala Arg Gln Ser Met Lys
          260          265          270
Ile Gln Pro Ala Glu Ala Leu His Glu Glu
          275          280

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<210> 5862  
 <211> 146  
 <212> PRT  
 <213> B.fragilis

<400> 5862

```

Ser Glu Ile Pro Ile Thr Thr Pro Pro Phe Ala Val Pro Ser Asn Leu
1          5          10          15
Val Ile Ala Ile Ala Val Thr Ser Val Ala Ser Val Asn Cys Phe Ala
          20          25          30
Cys Ser Lys Ala Phe Cys Pro Val Glu Pro Ser Ser Thr Asn Asn Thr
          35          40          45
Ser Phe Gly Ala Ser Gly Thr Thr Phe Phe Ile Thr Phe Leu Ile Phe
          50          55          60
Val Ser Ser Phe Ile Lys Pro Thr Leu Leu Cys Lys Arg Pro Ala Val
65          70          75          80

```

Ser Ile Ile Thr Thr Ser Ala Leu Leu Ala Thr Ala Glu Leu Asn Val  
                   85                  90                  95  
 Ser Asn Ala Thr Glu Ala Gly Ser Ala Pro Ile Phe Cys Leu Met Thr  
                   100                  105                  110  
 Gly Thr Ser Thr Leu Ser Pro His Ile Thr Asn Cys Ser Thr Ala Ala  
                   115                  120                  125  
 Ala Arg Lys Val Ser Ala Ala Pro Lys Tyr Thr Asp Leu Pro Ala Phe  
                   130                  135                  140  
 Leu Asn  
 145

<210> 5863

<211> 363

<212> PRT

<213> B.fragilis

<400> 5863

Thr Lys Leu Thr Gly Lys Met Asn Lys Tyr Ile Leu Leu Ile Val Leu  
 1                  5                  10                  15  
 Leu Phe Leu Val Ser Gly Arg Ile Ala Gln Ser Val Thr Val Asp  
                   20                  25                  30  
 Ala Lys Ile Asp Ser Leu Gln Ile Leu Ile Gly Glu Gln Ala Lys Val  
                   35                  40                  45  
 Gln Leu Gln Val Ala Met Asp Ala Lys Gln Arg Ala Val Phe Pro Ser  
                   50                  55                  60  
 Phe Thr Asp Thr Leu Val Arg Gly Val Glu Ile Val Asp Ile Ala Lys  
                   65                  70                  75                  80  
 Pro Asp Thr Gln Tyr Leu Asn Asp Arg Gln Arg Met Leu Ile Thr Gln  
                   85                  90                  95  
 Glu Tyr Thr Val Thr Ser Phe Asp Ser Ala Leu Tyr Tyr Ile Pro Pro  
                   100                  105                  110  
 Met Gly Val Lys Ile Asp Asn Lys Glu Tyr Lys Ser Lys Ala Leu Ala  
                   115                  120                  125  
 Leu Lys Val Tyr Ser Met Pro Val Asp Thr Leu His Pro Asp Gln Phe  
                   130                  135                  140  
 Phe Gly Gln Lys Thr Val Met Lys Ala Pro Phe Ala Trp Glu Asp Trp  
                   145                  150                  155                  160  
 Tyr Gly Leu Ile Ala Cys Ser Phe Leu Ala Leu Pro Leu Leu Gly Leu  
                   165                  170                  175  
 Leu Ile Tyr Leu Ile Ile Arg Ile Arg Asp Asn Lys Pro Ile Ile Arg  
                   180                  185                  190  
 Lys Val Lys Val Glu Pro Lys Leu Pro Pro His Gln Leu Ala Met Lys  
                   195                  200                  205  
 Glu Ile Glu Arg Ile Lys Thr Glu Lys Ile Trp Gln Lys Gly Gln Ser  
                   210                  215                  220  
 Lys Glu Tyr Tyr Thr Glu Leu Thr Asp Ala Leu Arg Thr Tyr Ile Lys  
                   225                  230                  235                  240  
 Asn Arg Phe Gly Phe Asn Ala Leu Glu Met Thr Ser Ser Glu Ile Ile  
                   245                  250                  255  
 Asp Lys Leu Leu Glu Phe Asn Asp Lys Glu Ala Ile Ser Asp Leu Lys  
                   260                  265                  270  
 Tyr Leu Phe Gln Thr Ala Asp Leu Val Lys Phe Ala Lys His Asp Pro  
                   275                  280                  285  
 Gln Met Asn Glu Asn Asp Ala Asn Leu Ile Asn Ala Ile Asp Phe Ile  
                   290                  295                  300  
 Asn Glu Thr Lys Gln Leu Glu Glu Asn Gln Lys Pro Gln Pro Thr  
                   305                  310                  315                  320  
 Glu Ile Thr Ile Ile Glu Lys Arg Ser Leu Arg Thr Lys Ile Leu Leu  
                   325                  330                  335



Ile Cys Gly Ile Val Phe Leu Ser Ala Ala Leu Ile Ala Thr Phe Val  
 340 345 350  
 Tyr Ile Gly Leu Gln Leu Tyr Asn Leu Phe Gly  
 355 360

<210> 5864  
 <211> 95  
 <212> PRT  
 <213> B.fragilis

<400> 5864  
 Asp Met Arg Thr Ile Thr Phe Asn Glu Leu Arg Lys Ile Lys Asp Ser  
 1 5 10 15  
 Leu Pro Ser Gly Ser Met His Arg Ile Ala Asp Glu Leu Asn Leu Asn  
 20 25 30  
 Val Asp Thr Val Arg Asn Phe Phe Gly Gly His Asn Phe Lys Glu Gly  
 35 40 45  
 Lys Ser Val Gly Ile His Leu Glu Pro Gly Pro Asp Gly Gly Leu Val  
 50 55 60  
 Met Ile Asp Asp Thr Thr Val Leu Asp Arg Ala Leu Arg Ile Leu Asp  
 65 70 75 80  
 Glu Leu Asn Met Ser Lys Glu Glu Ala Thr Glu Ser Val Gln Val  
 85 90 95

<210> 5865  
 <211> 232  
 <212> PRT  
 <213> B.fragilis

<400> 5865  
 Ile Ser Arg Ala Ile Ile Ser Ser Ala Val Asn Leu Gly Glu Pro Ser  
 1 5 10 15  
 Ser Ser Ile Thr Phe Phe Lys Leu Ser Val Val Ser Cys Pro Val Ser  
 20 25 30  
 Pro Val Thr Trp Ile Gly Ser Ser Glu Phe Ser Thr Thr Leu Ser Asn  
 35 40 45  
 Pro Pro Ser Ser Arg Thr Ser Ala Met Asp Glu Pro Ser Thr Thr Ala  
 50 55 60  
 Ser Leu Pro Leu Cys Met Leu Thr Ser Ser Thr Val Ser Ser Met Ser  
 65 70 75 80  
 Ile Ser Ser Thr Thr Ser Val Leu Ser Asp Ser Phe Ile Thr Ser Glu  
 85 90 95  
 Thr Ser Ser Ala Thr Ser Thr Ser Asp Asp Thr Thr Ser Cys Pro Phe  
 100 105 110  
 Glu Val Ser Gly Ser Thr Phe Pro Phe Ala Ser Val Ser Thr Thr Phe  
 115 120 125  
 Ser Ser Ala Phe Ala Ser Ser Leu Ser Thr Val Ser Val Ile Asn Gly  
 130 135 140  
 Ser Ser Val Val Ser Asp Ile Phe Pro Asp Ser Ser Ser Asn Ser Ser  
 145 150 155 160  
 Ile Gly Val Ser Ser Lys Thr Val Phe Ser Phe Ser Thr Thr Val Ser  
 165 170 175  
 Lys Cys Glu Lys Gly Leu Phe Met Ile Ser Leu Lys Glu Gly Ser Gly  
 180 185 190  
 Val Lys Glu Ile Leu Val Cys Pro Ser Ile Leu Ile Arg Ser Pro Val  
 195 200 205  
 Leu Thr Phe Thr Leu Ser Arg Leu Leu Thr Pro Ile Asn Leu Asn Val  
 210 215 220  
 Pro Asn Pro Leu Ile Phe Thr Tyr

225

230

&lt;210&gt; 5866

&lt;211&gt; 240

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5866

Val	Val	Met	Tyr	Met	Ser	Arg	Asn	Lys	Tyr	Ile	Leu	Phe	Ala	Leu	Leu
1				5					10					15	
Leu	Ser	Leu	Ser	Ala	Gly	Ala	Phe	Ala	Gln	Lys	Ala	Glu	Arg	Asp	Tyr
			20					25					30		
Ile	Arg	Lys	Gly	Asn	Arg	Leu	Phe	Lys	Asp	Ser	Val	Phe	Val	Asp	Ala
		35					40					45			
Glu	Val	Asn	Tyr	Arg	Lys	Ala	Leu	Glu	Ala	Asn	Pro	Lys	Ser	Thr	Ile
		50				55					60				
Ser	Met	Tyr	Asn	Leu	Gly	Asn	Thr	Leu	Ser	Gln	Gln	Gln	Lys	Phe	Lys
65					70					75				80	
Asp	Ala	Met	Glu	Gln	Tyr	Val	Ala	Ala	Thr	Ser	Ile	Glu	Lys	Asp	Lys
			85						90					95	
Ala	Lys	Leu	Gly	Gln	Ile	Tyr	His	Asn	Met	Gly	Val	Leu	Phe	Gln	Ser
			100					105					110		
Gly	Lys	Asp	Tyr	Gln	Lys	Ala	Val	Glu	Ala	Tyr	Lys	Met	Ser	Leu	Arg
		115					120					125			
Asn	Asn	Pro	Lys	Asp	Asp	Glu	Thr	Arg	Tyr	Asn	Leu	Ala	Leu	Ala	Gln
		130				135					140				
Lys	Leu	Leu	Lys	Asp	Gln	Gln	Gln	Asn	Gln	Gln	Asn	Gln	Asp	Gln	Asn
145					150					155				160	
Gln	Asp	Gln	Asn	Lys	Asp	Asp	Gln	Gln	Lys	Gln	Gln	Asp	Lys	Lys	Asp
			165						170					175	
Gln	Asn	Lys	Gln	Asn	Asp	Gln	Asn	Lys	Asp	Gln	Gln	Gln	Gln	Gln	Pro
			180					185						190	
Pro	Lys	Ser	Glu	Lys	Asn	Asp	Asn	Glu	Met	Ser	Lys	Glu	Asn	Ala	Glu
		195					200					205			
Gln	Leu	Leu	Asn	Ser	Val	Met	Gln	Asp	Glu	Lys	Gly	Val	Gln	Asp	Lys
		210				215					220				
Val	Lys	Lys	Gln	Gln	Thr	Leu	Gln	Gly	Arg	Arg	Leu	Glu	Lys	Asp	Trp
225					230					235				240	

&lt;210&gt; 5867

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5867

Glu	Ile	Asp	Phe	Thr	Tyr	Phe	Ser	Phe	Cys	Val	Thr	Leu	Leu	Phe	Arg
1				5					10					15	
Ile	Arg	Ser	Ser	Lys	Lys	Lys	Arg	Leu	Pro	Asn	Phe	Ser	Asn	Gln	Ala
			20					25					30		
Thr	Pro	Phe	Thr	Lys	Ile	Phe	Ala	Lys	Lys	Asp	Leu	Phe	Asp	His	Tyr
		35				40					45				
Ile	Ile	Phe	Ser	Ile	Ser	Ser	Asn	Ser	Gly	Pro	Ile	Phe	Arg	Leu	
		50				55					60				

&lt;210&gt; 5868

&lt;211&gt; 355

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5868

```

Ile Leu Leu Leu Ser Leu Leu Leu His Arg Leu Asn Ile Lys Lys Arg
1      5      10      15
Met Ser Thr Ile Ile Leu Gly Ile Glu Ser Ser Cys Asp Asp Thr Ser
20      25      30
Ala Ala Val Ile Lys Asp Gly Tyr Leu Leu Ser Asn Val Val Ser Ser
35      40      45
Gln Ala Val His Glu Ala Tyr Gly Gly Val Val Pro Glu Leu Ala Ser
50      55      60
Arg Ala His Gln Gln Asn Ile Val Pro Val Val His Glu Ala Leu Lys
65      70      75      80
Arg Ala Gly Val Thr Lys Glu Glu Leu Ser Ala Val Ala Phe Thr Arg
85      90      95
Gly Pro Gly Leu Met Gly Ser Leu Leu Val Gly Val Ser Phe Ala Lys
100     105     110
Gly Phe Ala Arg Ser Leu Asn Ile Pro Met Ile Asp Val Asn His Leu
115     120     125
Thr Gly His Val Leu Ala His Phe Ile Lys Glu Glu Gly Glu Ala Asn
130     135     140
Glu Gln Pro Asp Phe Pro Phe Leu Cys Leu Leu Val Ser Gly Gly Asn
145     150     155     160
Ser Gln Ile Ile Leu Val Lys Ala Tyr Asn Asp Met Glu Ile Leu Gly
165     170     175
Gln Thr Ile Asp Asp Ala Ala Gly Glu Ala Ile Asp Lys Cys Ser Lys
180     185     190
Val Met Gly Leu Gly Tyr Pro Gly Gly Pro Ile Ile Asp Arg Leu Ala
195     200     205
Arg Gln Gly Asn Pro Lys Ala Tyr Thr Phe Ser Lys Pro His Ile Ser
210     215     220
Gly Leu Asp Tyr Ser Phe Ser Gly Leu Lys Thr Ser Phe Leu Tyr Ser
225     230     235     240
Leu Arg Asp Trp Met Lys Glu Asp Pro Asp Phe Ile Glu His His Lys
245     250     255
Asn Asp Leu Ala Ala Ser Leu Glu Ala Thr Val Val Asp Ile Leu Met
260     265     270
Asp Lys Leu Arg Lys Ala Ala Lys Gln Tyr Lys Ile Asn Glu Val Ala
275     280     285
Val Ala Gly Gly Val Ser Ala Asn Asn Gly Leu Arg Asn Ala Phe Arg
290     295     300
Glu His Ala Glu Lys Tyr Gly Trp Lys Ile Phe Ile Pro Lys Phe Ser
305     310     315     320
Tyr Thr Thr Asp Asn Ala Ala Met Ile Ala Ile Thr Gly Tyr Phe Lys
325     330     335
Tyr Gln Asp Lys Asp Phe Cys Ser Ile Glu Gln Pro Ala Tyr Ser Arg
340     345     350
Val Thr Leu
355

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&lt;210&gt; 5869

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5869

```

Arg Arg Tyr His Lys Ile Asp Lys Lys Met Phe Arg Phe Glu Glu Pro
1      5      10      15
Ala Tyr Leu Tyr Leu Leu Leu Leu Leu Pro Leu Leu Ala Ala Phe Tyr
20      25      30
Leu Tyr Ser Asn Tyr Arg Lys Arg Lys Ala Ile Arg Lys Phe Gly Asp

```

35	40	45
Pro Val Leu Met Ala Gln Leu Met Pro Asp Val Ser Lys Tyr Arg Pro		
50	55	60
Asp Val Lys Phe Trp Leu Leu Phe Thr Ala Ile Gly Leu Phe Ala Val		
65	70	75
Leu Leu Ala Arg Pro Gln Phe Gly Ser Lys Leu Glu Thr Val Lys Arg		
85	90	95
Lys Gly Val Glu Val Met Ile Ala Leu Asp Ile Ser Asn Ser Met Leu		
100	105	110
Ala Gln Asp Val Gln Pro Ser Arg Leu Glu Lys Ala Lys Arg Leu Ile		
115	120	125
Ser Lys Leu Val Asp Gly Met Glu Asn Asp Lys Val Gly Met Ile Val		
130	135	140
Phe Ala Gly Asp Ala Phe Thr Gln Leu Pro Ile Thr Ser Asp Tyr Ile		
145	150	155
Ser Ala Lys Met Phe Leu Glu Ser Ile Ser Pro Ser Leu Ile Ser Lys		
165	170	175
Gln Gly Thr Ala Ile Gly Ala Ala Ile Asn Leu Ala Ala Arg Ser Phe		
180	185	190
Thr Pro Gln Glu Gly Val Gly Arg Ala Ile Val Val Ile Thr Asp Gly		
195	200	205
Glu Asn His Glu Arg Gly Ser Cys		
210	215	

&lt;210&gt; 5870

&lt;211&gt; 327

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5870

Cys Ile Ile Gln Ile Ile Val Ile Met Gly Phe Phe Ser Phe Phe Ser		
1	5	10
Lys Glu Lys Lys Glu Thr Leu Asp Lys Gly Leu Ser Lys Thr Lys Glu		
20	25	30
Ser Val Phe Ser Lys Ile Ala Arg Ala Val Ala Gly Lys Ser Lys Val		
35	40	45
Asp Asp Glu Val Leu Asp Asn Leu Glu Glu Val Leu Ile Thr Ser Asp		
50	55	60
Val Gly Val Glu Thr Thr Leu Asn Ile Ile Lys Arg Ile Glu Lys Arg		
65	70	75
Ala Ala Glu Asp Lys Tyr Val Asn Thr Gln Glu Leu Asn Ser Ile Leu		
85	90	95
Arg Glu Glu Ile Ala Ala Leu Leu Thr Glu Asn Asn Ser Asp Asp Val		
100	105	110
Ala Asp Phe Asp Val Pro Val Glu Lys Lys Pro Tyr Val Ile Met Val		
115	120	125
Val Gly Val Asn Gly Val Gly Lys Thr Thr Thr Ile Gly Lys Leu Ala		
130	135	140
Tyr Gln Phe Lys Lys Ala Gly Lys Ser Val Tyr Leu Gly Ala Ala Asp		
145	150	155
Thr Phe Arg Ala Ala Ala Val Glu Gln Leu Val Ile Trp Gly Glu Arg		
165	170	175
Val Asp Val Pro Val Ile Lys Gln Lys Met Gly Ala Asp Pro Ala Ser		
180	185	190
Val Ala Phe Asp Thr Leu Ser Ser Ala Val Ala Asn Asn Ala Asp Val		
195	200	205
Val Ile Ile Asp Thr Ala Gly Arg Leu His Asn Lys Val Gly Leu Met		
210	215	220
Asn Glu Leu Thr Lys Ile Lys Asn Val Met Lys Lys Val Val Pro Asp		

## 2581

```

225          230          235          240
Ala Pro Asn Glu Val Leu Leu Val Leu Asp Gly Ser Thr Gly Gln Asn
          245          250          255
Ala Phe Glu Gln Ala Lys Gln Phe Thr Leu Ala Thr Glu Val Thr Ala
          260          265          270
Met Ala Ile Thr Lys Leu Asp Gly Thr Ala Lys Gly Gly Val Val Ile
          275          280          285
Gly Ile Ser Asp Gln Phe Lys Ile Pro Val Lys Tyr Ile Gly Leu Gly
          290          295          300
Glu Gly Met Glu Asp Leu Gln Val Phe Arg Lys Lys Glu Phe Val Asp
305          310          315          320
Ser Leu Phe Gly Glu Asn Ala
          325

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&lt;210&gt; 5871

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5871

```

Ile Arg Asp Lys Val Arg Ile Pro Ile Gly Lys Thr Ile Gly Ile Ser
1          5          10          15
Tyr Leu Leu Asn Ser Ile Asn Lys Arg Ile Met Glu Glu Lys Leu Val
          20          25          30
Thr Leu Ala Ile Leu Thr Tyr Thr Lys Ala Gln Ile Leu Lys Asn Val
          35          40          45
Leu Glu Asn Glu Gly Ile Glu Thr Tyr Ile His Asn Val Asn Gln Ile
          50          55          60
Gln Pro Val Val Ser Ser Gly Val Arg Leu Arg Ile Lys Glu Ser Asp
65          70          75          80
Leu Pro Arg Ala Leu Lys Ile Thr Glu Ser Ser Ala Trp Leu Ala Glu
          85          90          95
Ser Ile Val Gly Glu Lys Thr Pro Lys Val Glu His Arg Thr Lys Lys
          100          105          110
Val Leu Ile Pro Val Asp Phe Ser Asn Tyr Ser Met Lys Ala Cys Glu
          115          120          125
Phe Gly Phe Asn Phe Ala Lys Ser Phe Asp Ala Glu Val Ile Leu Leu
          130          135          140
His Val Tyr Phe Thr Pro Ile Tyr Ala Ser Ser Leu Pro Tyr Gly Asp
145          150          155          160
Val Phe Asn Tyr Gln Ile Ser Asp Glu Glu Thr Val Lys Asn Val Leu
          165          170          175
His Lys Val His Asp Asp Leu Asn Thr Leu Ser Glu Lys Ile Lys Gln
          180          185          190
Lys Val Ala Ser Gly Glu Phe Pro Asp Val Lys His Thr Cys Val Leu
          195          200          205
Arg Glu Gly Ile Pro Glu Glu Glu Ile Leu Arg Tyr Asn Lys Glu His
          210          215          220
Arg Pro Arg Ile Ile Ile Met Gly Thr Arg Gly Lys Asn Gln Lys Asp
225          230          235          240
Ile Asp Leu Ile Gly Ser Val Thr Ala Glu Ile Ile Glu Arg Ser His
          245          250          255
Thr Thr Val Leu Ala Ile Pro Glu Asn Thr Pro Phe Asn Arg Phe Asn
          260          265          270
Glu Val Lys Arg Ile Ala Phe Met Thr Asn Phe Asp Gln Arg Asp Leu
          275          280          285
Ile Ala Phe Asp Ser Phe Ile Asn Gly Leu Ser Pro Phe His Phe Ser
          290          295          300
Val Ser Leu Ile His Leu Ser Asp Val Lys Asp Thr Trp Asn Glu Ile

```

305                    310                    315                    320  
 Lys Leu Ala Gly Ile Lys Asp Tyr Phe Gln Lys Gln Tyr Pro Asp Leu  
                          325                    330                    335  
 Glu Ile Tyr Tyr Asp Val Val Met Ser Asn Asp Phe Leu Asn Ser Leu  
                          340                    345                    350  
 Asp Asn Tyr Ile Lys Thr Asn Gln Ile Asp Ile Ile Thr Leu Thr Ser  
                          355                    360                    365  
 Tyr Lys Arg Asn Ile Phe Ser Arg Leu Phe Asn Pro Gly Ile Ala Arg  
                          370                    375                    380  
 Lys Met Ile Phe His Ser Asp Thr Pro Leu Leu Val Ile Asn Gly  
 385                    390                    395

<210> 5872

<211> 122

<212> PRT

<213> B.fragilis

<400> 5872

Leu Leu Phe Asn Ala Phe Ile Gly Ile Phe Pro Ala Asn Thr Arg Phe  
 1                    5                    10                    15  
 Thr Phe Ser Lys Thr Ala Ser Leu Lys Ile Ser Leu Val Pro Lys Tyr  
                          20                    25                    30  
 Leu Gln Arg Val Cys Leu Val Ile Ser Ser Leu Val Gly Pro Lys Pro  
                          35                    40                    45  
 Pro Val Thr Ser Thr Ile Phe Ala Leu Phe Ile Glu Ala Ser Thr Ala  
                          50                    55                    60  
 Ser Ile Ile Ser Ser Ala Arg Ser Arg Thr Asp Thr Thr Arg Ile Thr  
 65                    70                    75                    80  
 Ser Ile Pro Thr Leu Phe Asn Ser Arg Pro Ile His Ala Glu Leu Val  
                          85                    90                    95  
 Ser Val Thr Cys Pro Ile Asn Ser Ser Ser Pro Ile Val Ile Ile Ser  
                          100                    105                    110  
 Ala Asn Ile Gly Leu Leu Gln Ser Tyr Thr  
                          115                    120

<210> 5873

<211> 615

<212> PRT

<213> B.fragilis

<400> 5873

Leu Met Ile Lys Thr Ser Asp Glu Met Arg Lys Leu Ile Phe Leu Leu  
 1                    5                    10                    15  
 Ile Ala Leu Val Ala Met Thr Thr Gln Ala Gln Ala Asp Gly Lys Val  
                          20                    25                    30  
 Val Phe Thr Ala Ser Ala Pro Asp Ala Val Val Val Gly Asp Gln Phe  
                          35                    40                    45  
 Arg Leu Ser Tyr Thr Val Asn Thr Ile Lys Val Arg Asp Phe Arg Val  
                          50                    55                    60  
 Pro Ser Ile Lys Gly Phe Glu Val Leu Met Gly Pro Asn Arg Ser Gln  
 65                    70                    75                    80  
 Arg Met Gln Ser Ile Asn Gly Val Thr Asn Asn Ser Ile Thr Phe Thr  
                          85                    90                    95  
 Tyr Ile Leu Met Ala Thr Ala Glu Gly Glu Tyr Ser Ile Pro Gly Ala  
                          100                    105                    110  
 Thr Ile Thr Ala Asp Gly Asn Gln Met Val Ser Asn Ser Val Lys Ile  
                          115                    120                    125  
 Lys Val Leu Pro Ser Asp Lys Thr Gly Asn Thr Ala Asp Gly Lys Gly  
 130                    135                    140

Thr Ala Ser Ser Gly Asn Gln Ser Gly Thr Ser Ser Ser Val Ser Asn  
 145 150 155 160  
 Gln Asp Leu Leu Ile Thr Ala Thr Ala Asn Lys Thr Asn Val Tyr Glu  
 165 170 175  
 Gln Glu Ala Phe Leu Leu Thr Phe Lys Ile Tyr Thr Arg Glu Ser Gln  
 180 185 190  
 Leu Arg Phe Glu Asn Val Lys Leu Pro Asp Phe Lys Gly Phe His Ser  
 195 200 205  
 Gln Glu Ile Glu Met Pro Ala Asn Ala Lys Trp Ser Gln Glu His Tyr  
 210 215 220  
 Lys Gly Lys Asn Tyr Phe Thr Thr Val Tyr Arg Gln Phe Val Leu Phe  
 225 230 235 240  
 Pro Gln Gln Ser Gly Lys Leu Thr Ile Glu Pro Ala Arg Phe Asp Ala  
 245 250 255  
 Thr Ile Ala Lys Ala Val Gln Ser Asp Asp Pro Phe Asp Ala Phe Phe  
 260 265 270  
 Asn Gly Gly Ser Asn Tyr Val Asn Val Ser Lys Val Ile Val Thr Pro  
 275 280 285  
 Lys Ile Thr Val Asn Val Asn Pro Leu Pro Thr Gly Lys Pro Ala Asn  
 290 295 300  
 Phe Ser Gly Gly Val Gly Glu Phe Ser Ile Thr Ser Ser Ile Asn Ser  
 305 310 315 320  
 Lys Glu Val Lys Thr Asn Asp Ala Ile Thr Ile Lys Leu Val Ile Ser  
 325 330 335  
 Gly Thr Gly Asn Leu Lys Leu Ile Ala Asn Pro Glu Ile Lys Phe Pro  
 340 345 350  
 Glu Asp Phe Asp Val Tyr Asp Pro Lys Val Asp Ser Lys Val Arg Leu  
 355 360 365  
 Thr Gln Glu Gly Leu Ser Gly Asn Lys Val Ile Glu Tyr Leu Ala Ile  
 370 375 380  
 Pro Arg His Ala Gly Val Tyr Lys Ile Pro Gly Val Ser Phe Ser Tyr  
 385 390 395 400  
 Phe Asp Ile Lys Ser Lys Ser Tyr Lys Thr Leu Asn Thr Glu Asp Tyr  
 405 410 415  
 Glu Val Lys Val Glu Lys Gly Ala Gly Asn Ala Asp Gln Val Ile Ala  
 420 425 430  
 Asn Phe Thr Asn Lys Glu Asp Leu Lys Val Leu Gly Glu Asp Ile Arg  
 435 440 445  
 Tyr Ile Lys Leu Asn Asp Val Lys Leu Gln Pro Lys Asp Asn Leu Leu  
 450 455 460  
 Phe Gly Ser Leu Leu Tyr Trp Leu Phe Tyr Ile Val Pro Ala Val Val  
 465 470 475 480  
 Phe Ile Val Phe Phe Ile Val Tyr Arg Lys Gln Ala Ala Glu Asn Ala  
 485 490 495  
 Asn Val Ala Lys Met Arg Thr Lys Lys Ala Asn Lys Val Ala Thr Lys  
 500 505 510  
 Arg Met Lys Leu Ala Gly Lys Leu Leu Ala Glu Asn Ser Lys Glu Ala  
 515 520 525  
 Phe Tyr Asp Glu Val Leu Lys Ala Leu Trp Gly Tyr Ile Ser Asp Lys  
 530 535 540  
 Leu Asn Ile Pro Val Ser Arg Leu Ser Lys Asp Asn Val Glu Glu Lys  
 545 550 555 560  
 Leu Arg Asn Tyr Gly Val Ser Asp Glu Leu Ile Lys Asp Phe Leu Asn  
 565 570 575  
 Thr Leu Asn Glu Cys Glu Phe Ala Arg Phe Ala Pro Gly Asp Glu Ser  
 580 585 590  
 Gln Ala Met Asp Lys Val Tyr Ser Ser Ser Leu Glu Val Met Ser Lys  
 595 600 605  
 Met Glu Asn Ser Ile Lys Arg

610

615

&lt;210&gt; 5874

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5874

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Asn Tyr Lys Asn Lys Ile Glu Met Ser Lys Ile Cys Gln Ile Thr Gly
1           5           10           15
Lys Lys Ala Met Ile Gly Asn Asn Val Ser His Ser Lys Arg Arg Thr
          20           25           30
Lys Arg Thr Phe Asp Leu Asn Leu Phe Asn Lys Lys Phe Tyr Tyr Val
          35           40           45
Glu Gln Asp Cys Trp Ile Ser Leu Ser Leu Cys Ala Ala Gly Leu Arg
          50           55           60
Ile Ile Asn Lys Lys Gly Leu Asp Ala Ala Leu Asn Asp Ala Val Ala
65           70           75           80
Lys Gly Tyr Cys Asp Trp Lys Thr Ile Lys Val Val Gly
          85           90

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&lt;210&gt; 5875

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5875

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Val Met Lys Lys Ile Leu Phe Ile Ala Leu Gly Leu Leu Met Ala Val
1           5           10           15
Thr Ser Phe Gly Gln Asp Ser Leu Ile Thr Asp Ser Thr Gln Met Ile
          20           25           30
Gln Gly Asp Thr Val Ser Ile His Asn Ala Glu Phe Ser Gly Ser Lys
          35           40           45
Leu Glu Asp Ala Thr Lys Ala Glu Gly Asp Ser Ala Tyr Ile Arg Asn
          50           55           60
Asp Phe Ala Ser Ala Ile Gln Ile Tyr Glu Ser Leu Leu Arg Lys Gly
65           70           75           80
Glu Ser Ala Asp Val Tyr Tyr Asn Leu Gly Asn Ser Tyr Tyr Lys Ile
          85           90           95
Asn Glu Ile Ala Lys Ala Ile Leu Asn Tyr Glu Lys Ala Leu Leu Leu
          100          105          110
Gln Pro Gly Asn Gly Asp Ile Arg Ala Asn Leu Glu Ile Ala Arg Gly
          115          120          125
Lys Thr Val Asp Lys Val Glu Val Val Pro Glu Ile Phe Phe Val Thr
          130          135          140
Trp Thr Lys Ala Leu Ile Asn Ser Met Ser Val Asp Ser Trp Ala Ile
145          150          155          160
Trp Gly Ile Val Ser Phe Leu Leu Leu Ile Val Ser Leu Tyr Phe Phe
          165          170          175
Ile Phe Ser Lys Gln Val Val Leu Lys Lys Val Gly Phe Ile Thr Gly
          180          185          190
Ile Ile Phe Leu Ile Val Val Val Met Ala Asn Ile Phe Ala Ser Lys
          195          200          205
Gln Lys Glu Glu Leu Leu Asn Arg Asp Thr Ala Ile Ile Met Ser Pro
          210          215          220
Ser Val Thr Val Arg Ser Thr Pro Ser Glu Asn Gly Thr Ser Leu Phe
225          230          235          240
Ile Leu His Glu Gly His Lys Val Asn Ile Lys Asp Asp Ser Met Lys
          245          250          255

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Asp Trp Lys Glu Ile Arg Leu Glu Asp Gly Lys Val Gly Trp Val Pro  
 260 265 270  
 Val Gly Ser Ile Glu Ile Ile  
 275

<210> 5876  
 <211> 68  
 <212> PRT  
 <213> B.fragilis

<400> 5876  
 Lys Glu Glu Lys Leu Ile Met Ala Lys Lys Ala Lys Gly Asn Arg Val  
 1 5 10 15  
 Gln Val Ile Leu Glu Cys Thr Glu His Lys Asp Ser Gly Met Pro Gly  
 20 25 30  
 Thr Ser Arg Tyr Ile Thr Thr Lys Asn Arg Lys Asn Thr Thr Glu Arg  
 35 40 45  
 Leu Glu Leu Lys Lys Tyr Asn Pro Ile Leu Lys Arg Val Thr Val His  
 50 55 60  
 Lys Glu Ile Lys  
 65

<210> 5877  
 <211> 1129  
 <212> PRT  
 <213> B.fragilis

<400> 5877  
 Tyr Leu Asn Asp Ala Lys Val Met Ile Lys Val Gly Phe Ile Thr Asn  
 1 5 10 15  
 Tyr Phe Ile Phe Leu Phe Ser Lys Ser Lys Gln Pro Pro Ile Arg Thr  
 20 25 30  
 Leu Lys Lys Thr Val Arg Trp Val Ile Gly Ile Ile Leu Gly Ile Tyr  
 35 40 45  
 Ile Gly Thr Ile Ile Leu Leu Asn Ile Pro Tyr Ile Gln Arg Asn Met  
 50 55 60  
 Thr Thr Phe Val Thr Lys Glu Leu Ser Arg Thr Leu Gly Thr Glu Leu  
 65 70 75 80  
 Thr Ile Gly Lys Ile Asp Ile Gly Leu Leu Asn Arg Ile Ile Ile Asp  
 85 90 95  
 Asp Val Leu Leu Asp Asp Gln Ser Gly Lys Glu Met Leu Lys Ile Thr  
 100 105 110  
 Arg Leu Ser Ala Lys Phe Asp Ile Ile Pro Leu Phe Asn Gly Lys Ile  
 115 120 125  
 Thr Ile Ser Ser Val Gln Leu Phe Gly Phe Asn Ile Asn Leu Asn Lys  
 130 135 140  
 Pro Ala Pro His Met Glu Pro Asn Phe Lys Phe Val Leu Asp Ala Phe  
 145 150 155 160  
 Ala Ser Lys Asp Thr Val Lys Thr Lys Lys Asp Ile Asp Leu Arg Ile  
 165 170 175  
 Asn Ser Ile Leu Ile Arg Arg Gly Lys Leu Ser Tyr Asp Val Leu Ser  
 180 185 190  
 Glu Glu Glu Thr Pro Gly Lys Phe Asn Pro Gln His Ile Lys Leu His  
 195 200 205  
 Asn Ile Ile Ala Asn Ile Ser Leu Lys Ala Leu Gln Asn Asp Ser Ile  
 210 215 220  
 Asn Ala Ala Ile Lys Arg Leu Ser Val Asp Glu Gln Ser Gly Phe Glu  
 225 230 235 240  
 Leu Arg Lys Leu Ser Leu Lys Val Ile Ala Asn Asn Lys Gly Met Lys



Gln Tyr Gln Asn Thr Phe Ile Glu Ser Gly Leu Val Leu Cys Glu Asn  
 725 730 735  
 Pro Thr Asp Gln Phe Lys Ala Lys Val Arg Phe Asn Asn Leu Lys Lys  
 740 745 750  
 Glu Ser Ala Val Ser Ile Ser Leu Asp Ala Gln Ala Lys Asn Asp Thr  
 755 760 765  
 Ile Asn Ala Asn Ile Asn Trp Gly Asn Asn Ala Ile Ser Thr Tyr Ser  
 770 775 780  
 Gly Arg Leu Ser Ala Ala Ala Ser Phe Phe Arg Ala Ala Glu Glu Lys  
 785 790 795 800  
 Ser Pro Leu Lys Thr Val Val Asp Ile Lys Gln Thr Asp Ile Ile Leu  
 805 810 815  
 Asn Asp Thr Leu Trp Gln Val His Pro Ser Gln Val Val Val Asp Ser  
 820 825 830  
 Gly Lys Ile Asp Val Asn Asp Phe Tyr Phe Ser His Gln Asp Arg His  
 835 840 845  
 Ile Arg Ile Asn Gly Arg Ile Ser Glu Gln Ala Lys Asp Thr Leu Lys  
 850 855 860  
 Val Glu Leu Lys Asp Ile Asn Val Gly Tyr Val Phe Asp Val Val Asn  
 865 870 875 880  
 Phe Asp Asp Val Asp Phe Lys Gly Asp Ala Thr Gly Thr Ala Tyr Ala  
 885 890 895  
 Ser Gly Ile Leu Lys Glu Pro Val Met Asn Thr Arg Leu His Phe Lys  
 900 905 910  
 Asn Phe Thr Phe Asn Asp Ala Ser Leu Gly Ala Met Asp Ile Tyr Gly  
 915 920 925  
 Ala Trp Lys Asn Asp Met Arg Ala Ile Phe Leu Asp Ala His Met Glu  
 930 935 940  
 Glu Glu Gly Val Ser Lys Thr His Val Ile Gly His Val Tyr Pro Leu  
 945 950 955 960  
 Lys Pro Glu Ser Lys Leu Asp Leu Asn Ile Glu Thr Asp His Thr Asn  
 965 970 975  
 Ile Gln Phe Leu Gln Tyr Phe Met Arg Ser Ile Val Glu Asp Leu His  
 980 985 990  
 Gly Arg Thr Ser Gly Lys Ala His Phe Tyr Gly Lys Phe Lys Ala Leu  
 995 1000 1005  
 Asn Ile Glu Gly Asn Leu Met Thr Asp Ala Ser Leu Lys Ile Gly Ile  
 1010 1015 1020  
 Leu Asn Thr Ser Phe Thr Val Thr Asp Thr Ile Arg Leu Ser Thr Ser  
 1025 1030 1035 1040  
 Gly Ile Ser Phe Asp Asn Ile Arg Ile Ala Asp Met Glu Gly His Gln  
 1045 1050 1055  
 Gly Thr Met Asn Gly Lys Leu Asn Phe Arg His Phe Arg Asp Leu Ser  
 1060 1065 1070  
 Tyr His Phe Glu Phe Asn Val Asn Asn Met Leu Leu Met Asn Thr Lys  
 1075 1080 1085  
 Glu Asn Pro Asp Ile Asn Phe Tyr Gly Lys Val Tyr Gly Thr Gly Asn  
 1090 1095 1100  
 Ala Met Leu Ile Gly Asn Pro Gln Glu Leu Gln Val Asn Ala Ala Val  
 1105 1110 1115 1120  
 Thr Thr Asn Arg Asn Thr Asn Phe Val  
 1125

&lt;210&gt; 5878

&lt;211&gt; 492

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5878



465                      470                      475                      480  
 Gly Thr Val Leu Lys Ile Pro Glu Leu Val Lys Lys  
                          485                      490

<210> 5879  
 <211> 847  
 <212> PRT  
 <213> B.fragilis

<400> 5879  
 Arg Arg Leu Leu Glu Gln Asp Arg Ile Ile Lys Ile Asn Ile Glu Glu  
 1                      5                      10                      15  
 Glu Met Lys Ser Ser Tyr Ile Asp Tyr Ser Met Ser Val Ile Val Ser  
                          20                      25                      30  
 Arg Ala Leu Pro Asp Val Arg Asp Gly Phe Lys Pro Val His Arg Arg  
                          35                      40                      45  
 Ile Leu Tyr Gly Met Met Glu Leu Gly Asn Thr Ser Asp Lys Pro Tyr  
                          50                      55                      60  
 Lys Lys Ser Ala Arg Ile Val Gly Glu Val Leu Gly Lys Tyr His Pro  
 65                      70                      75                      80  
 His Gly Asp Ser Ser Val Tyr Phe Ala Met Val Arg Met Ala Gln Glu  
                          85                      90                      95  
 Trp Ala Met Arg Tyr Pro Leu Val Asp Gly Gln Gly Asn Phe Gly Ser  
                          100                      105                      110  
 Val Asp Gly Asp Ser Pro Ala Ala Met Arg Tyr Thr Glu Ala Arg Leu  
                          115                      120                      125  
 Asn Lys Leu Gly Glu Glu Met Met Gln Asp Leu Tyr Lys Glu Thr Val  
                          130                      135                      140  
 Asp Phe Glu Pro Asn Phe Asp Asn Thr Leu Met Glu Pro Lys Val Met  
 145                      150                      155                      160  
 Pro Thr Arg Ile Pro Asn Leu Leu Val Asn Gly Ala Ser Gly Ile Ala  
                          165                      170                      175  
 Val Gly Met Ala Thr Asn Met Pro Pro His Asn Leu Ser Glu Val Ile  
                          180                      185                      190  
 Asp Ala Cys Glu Ala Tyr Leu Asp Asn Lys Asp Val Thr Val Glu Glu  
                          195                      200                      205  
 Leu Met Glu Tyr Val Lys Ala Pro Asp Phe Pro Thr Gly Gly Tyr Ile  
                          210                      215                      220  
 Tyr Gly Ile Ser Gly Val Arg Glu Ala Tyr Leu Thr Gly Arg Gly Arg  
 225                      230                      235                      240  
 Val Val Met Arg Ala Lys Ala Glu Ile Glu Ser Gly Gln Thr His Asp  
                          245                      250                      255  
 Lys Ile Val Val Thr Glu Ile Pro Tyr Asn Val Asn Lys Ala Glu Leu  
                          260                      265                      270  
 Ile Lys Ala Ile Ala Asp Leu Val Asn Glu Lys Arg Ile Glu Gly Ile  
                          275                      280                      285  
 Ser Asn Ala Asn Asp Glu Ser Asp Arg Glu Gly Met Arg Ile Val Ile  
                          290                      295                      300  
 Asp Ile Lys Arg Asp Ala Asn Ala Ser Val Val Leu Asn Lys Leu Tyr  
 305                      310                      315                      320  
 Lys Met Thr Ala Leu Gln Thr Ser Phe Gly Val Asn Asn Val Ala Leu  
                          325                      330                      335  
 Val Asn Gly Arg Pro Lys Met Leu Asn Leu Arg Asp Leu Ile Val Tyr  
                          340                      345                      350  
 Phe Val Glu His Arg His Asp Val Val Ile Arg Arg Thr Gln Phe Asp  
                          355                      360                      365  
 Leu Arg Lys Ala Lys Glu Arg Ala His Ile Leu Glu Gly Leu Ile Ile  
                          370                      375                      380  
 Ala Ser Asp Asn Ile Asp Glu Val Ile Arg Ile Ile Arg Ala Ala Lys

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385          390          395          400
Thr Pro Asn Asp Ala Ile Ser Gly Leu Met Glu Arg Phe Asn Leu Ser
          405          410          415
Glu Ile Gln Ala Arg Ala Ile Val Glu Met Arg Leu Arg Gln Leu Thr
          420          425          430
Gly Leu Met Gln Asp Gln Leu His Ala Glu Tyr Glu Glu Val Met Lys
          435          440          445
Gln Ile Ala Tyr Leu Glu Ser Ile Leu Ala Asp Asp Glu Val Cys Arg
          450          455          460
Lys Val Ile Lys Asp Glu Leu Leu Glu Val Arg Ala Lys Tyr Gly Asp
465          470          475          480
Glu Arg Arg Ser Glu Ile Val Tyr Ser Ser Glu Glu Phe Asn Pro Glu
          485          490          495
Asp Phe Tyr Ala Asp Asp Gln Met Ile Ile Thr Ile Ser His Met Gly
          500          505          510
Tyr Ile Lys Arg Thr Pro Leu Thr Glu Phe Arg Ala Gln Asn Arg Gly
          515          520          525
Gly Val Gly Ser Lys Gly Thr Glu Thr Arg Asp Glu Asp Phe Val Glu
          530          535          540
His Ile Tyr Pro Ala Thr Met His Asn Thr Met Met Phe Phe Thr Gln
545          550          555          560
Lys Gly Lys Cys Tyr Trp Leu Lys Val Tyr Glu Ile Pro Glu Gly Thr
          565          570          575
Lys Asn Ser Lys Gly Arg Ala Ile Gln Asn Leu Leu Asn Ile Asp Ser
          580          585          590
Asp Asp Ala Val Asn Ala Tyr Leu Arg Val Lys Ser Leu Asn Asp Gln
          595          600          605
Glu Tyr Ile Asn Ser His Tyr Val Leu Phe Cys Thr Lys Asn Gly Val
          610          615          620
Ile Lys Lys Thr Ser Leu Glu Gln Tyr Ser Arg Pro Arg Gln Asn Gly
625          630          635          640
Val Asn Ala Ile Thr Ile Arg Glu Asp Asp Arg Val Ile Glu Val Arg
          645          650          655
Met Thr Asn Gly Asn Asn Glu Ile Ile Ile Ala Asn Arg Asn Gly Arg
          660          665          670
Ala Ile Arg Phe His Glu Ala Ala Val Arg Val Met Gly Arg Thr Ala
          675          680          685
Thr Gly Val Arg Gly Ile Thr Leu Asp Asp Asp Gly Gln Asp Glu Val
          690          695          700
Ile Gly Met Ile Cys Ile Lys Asp Leu Glu Thr Glu Ser Val Met Val
705          710          715          720
Val Ser Glu Gln Gly Tyr Gly Lys Arg Ser Asp Ile Glu Asp Tyr Arg
          725          730          735
Lys Thr Asn Arg Gly Gly Lys Gly Val Lys Thr Met Asn Ile Thr Glu
          740          745          750
Lys Thr Gly Lys Leu Val Thr Ile Lys Ser Val Thr Asp Glu Asn Asp
          755          760          765
Leu Met Ile Ile Asn Lys Ser Gly Ile Thr Ile Arg Leu Lys Val Ala
          770          775          780
Asp Val Arg Ile Met Gly Arg Ala Thr Gln Gly Val Arg Leu Ile Asn
785          790          795          800
Leu Glu Lys Arg Asn Asp Gln Ile Gly Ser Val Cys Lys Val Thr Ser
          805          810          815
Glu Ser Leu Glu Asp Glu Val Pro Glu Glu Glu Arg Glu Gly Asn Ile
          820          825          830
Pro Ser Asp Pro Glu Thr Asn Thr Pro Val Asn Glu Thr Glu Glu
          835          840          845

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<211> 331  
 <212> PRT  
 <213> B.fragilis

<400> 5880

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Ile Ile Asn Arg Met Val Phe Ala Asn Ile Glu Tyr Leu Phe Leu Leu
1           5           10           15
Leu Leu Leu Val Pro Tyr Ile Val Trp Tyr Ile Met Lys Arg Lys Lys
          20           25           30
Thr Glu Pro Thr Leu Gln Ile Ser Asp Ala Arg Val Tyr Ala His Ala
          35           40           45
Pro Lys Ser Tyr Lys Asn Tyr Leu Leu His Val Pro Phe Gly Leu Arg
          50           55           60
Ile Ile Thr Leu Ile Leu Ile Ile Leu Val Leu Ala Arg Pro Gln Thr
65           70           75           80
Thr Asn Ser Trp Gln Asn Ser Glu Ile Glu Gly Ile Asp Ile Met Leu
          85           90           95
Ala Ile Asp Val Ser Thr Ser Met Leu Ala Glu Asp Leu Lys Pro Asn
          100          105          110
Arg Leu Glu Ala Ala Lys Asp Val Ala Ala Glu Phe Ile Asn Gly Arg
          115          120          125
Pro Asn Asp Asn Ile Gly Ile Thr Leu Phe Ala Gly Glu Ser Phe Thr
          130          135          140
Gln Cys Pro Leu Thr Val Asp His Ala Val Leu Leu Asn Leu Phe Gln
145          150          155          160
Gly Ile Gln Cys Asp Ile Ile Glu Asp Gly Thr Ala Val Gly Met Gly
          165          170          175
Ile Ala Asn Ala Val Thr Arg Leu Lys Asp Ser Lys Ala Lys Ser Lys
          180          185          190
Val Ile Ile Leu Leu Thr Asp Gly Thr Asn Asn Lys Gly Asp Ile Ser
          195          200          205
Pro Leu Thr Ala Ala Glu Ile Ala Lys Ser Phe Gly Ile Arg Val Tyr
          210          215          220
Thr Ile Gly Val Gly Thr Asn Gly Met Ala Pro Tyr Pro Val Arg Val
225          230          235          240
Gly Gly Thr Thr Gln Tyr Ile Asn Thr Pro Val Glu Ile Asp Glu Lys
          245          250          255
Thr Leu Thr Gln Ile Ala Gly Thr Thr Asp Gly Asn Tyr Phe Arg Ala
          260          265          270
Thr Ser Asn Ser Lys Leu Lys Glu Val Tyr Glu Glu Ile Asp Lys Leu
          275          280          285
Glu Lys Thr Lys Leu Asn Val Lys Glu Tyr Ser Lys Arg Gln Glu Glu
          290          295          300
Tyr Arg Trp Phe Ala Leu Ala Ala Phe Leu Cys Ile Leu Leu Glu Val
305          310          315          320
Leu Leu Arg Asn Ser Ile Leu Lys Lys Ile Pro
          325          330

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<210> 5881  
 <211> 289  
 <212> PRT  
 <213> B.fragilis

<400> 5881

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Met Glu Thr Ser Glu Ile Leu Lys Lys Val Arg Arg Ile Glu Ile Lys
1           5           10           15
Thr Arg Gly Leu Ser Asn Asn Ile Phe Ala Gly Gln Tyr His Ser Ala
          20           25           30
Phe Lys Gly Arg Gly Met Ala Phe Ser Glu Val Arg Glu Tyr Gln Phe

```

35	40	45
Gly Asp Asp Ile Arg Asp	Ile Asp Trp Asn Val	Thr Ala Arg Phe Asn
50	55	60
Lys Pro Phe Val Lys Val	Phe Glu Glu Glu Arg	Glu Leu Thr Val Met
65	70	75
Leu Met Val Asp Val Ser	Gly Ser Leu Glu Phe	Gly Thr Val Lys Gln
85	90	95
Leu Lys Lys Asp Met Val	Thr Glu Ile Ala Ala	Thr Leu Ala Phe Ser
100	105	110
Ala Ile Gln Asn Asn Asp	Lys Ile Gly Val Ile	Phe Phe Ser Asp Arg
115	120	125
Ile Glu Lys Phe Ile Pro	Pro Lys Lys Gly Arg	Lys His Ile Leu Tyr
130	135	140
Ile Ile Arg Glu Leu Ile	Asp Phe Lys Pro Asp	Ser Arg Arg Thr Asn
145	150	155
Ile Arg Leu Ala Leu Glu	Tyr Leu Thr Asn Val	Met Lys Arg Arg Cys
165	170	175
Thr Ala Phe Ile Leu Ser	Asp Phe Ile Asp Gln	Glu Asn Phe Lys Asn
180	185	190
Ala Met Thr Ile Ala Asn	Arg Lys His Asp Val	Val Ala Ile Gln Val
195	200	205
Tyr Asp Arg Arg Val Ala	Glu Leu Pro Ala Val	Gly Leu Met Arg Ile
210	215	220
Lys Asp Ala Glu Thr Gly	His Glu Gln Trp Ile	Asp Thr Ser Ser Ala
225	230	235
Gly Val Arg Arg Ala His	His Glu Trp Trp Val	Asn Lys Gln Thr Glu
245	250	255
Leu Asp Glu Thr Phe Thr	Lys Ser Asn Val Asp	Ser Val Ser Val Arg
260	265	270
Thr Asp Gln Asp Tyr Val	Lys Ala Leu Leu Asn	Leu Phe Ala Lys Arg
275	280	285

Asn

&lt;210&gt; 5882

&lt;211&gt; 454

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5882

Gly Tyr Gly Arg Pro Thr	Gly Val Pro Gln Glu Arg	Ile Cys Arg Leu
1	5	10
Leu Ile Trp Arg Glu Cys	Met Lys Arg Lys Thr	Ile Asp Ile Ile Thr
20	25	30
Leu Gly Cys Ser Lys Asn	Leu Val Asp Ser Glu	Gln Leu Met Arg Gln
35	40	45
Leu Glu Glu Ala Gly Tyr	Asp Val Thr His Asp	Ser Glu Lys Pro Thr
50	55	60
Gly Glu Ile Ala Val Ile	Asn Thr Cys Gly Phe	Ile Gly Asp Ala Lys
65	70	75
Glu Glu Ser Ile Asn Met	Ile Leu Glu Phe Ala	Gln Glu Lys Glu Glu
85	90	95
Gly Asn Leu Glu Lys Leu	Phe Val Met Gly Cys	Leu Ser Glu Arg Tyr
100	105	110
Leu Lys Glu Leu Ala Ile	Glu Ile Pro Gln Val	Asp Lys Phe Tyr Gly
115	120	125
Lys Phe Asn Trp Lys Gly	Leu Leu Gln Asp Leu	Gly Lys Ala Tyr His
130	135	140
Glu Glu Leu His Ile Glu	Arg Thr Leu Thr Thr	Pro Lys His Tyr Ala



```

145          150          155          160
Tyr Leu Lys Ile Ser Glu Gly Cys Asp Arg Lys Cys Ser Tyr Cys Ala
          165          170          175
Ile Pro Ile Ile Thr Gly Arg His Val Ser Arg Pro Ile Glu Glu Ile
          180          185          190
Leu Asp Glu Val Arg Tyr Leu Val Ser Asn Gly Val Lys Glu Phe Gln
          195          200          205
Val Ile Ala Gln Glu Leu Thr Tyr Tyr Gly Val Asp Leu Tyr Lys Lys
          210          215          220
Gln Met Leu Pro Glu Leu Ile Glu Arg Ile Ser Glu Ile Pro Gly Val
225          230          235          240
Glu Trp Ile Arg Leu His Tyr Ala Tyr Pro Ala His Phe Pro Glu Glu
          245          250          255
Leu Phe Arg Val Met Arg Glu Arg Asp Asn Val Cys Lys Tyr Met Asp
          260          265          270
Ile Ala Leu Gln His Ile Ser Asp Asn Met Leu Gln Arg Met Arg Arg
          275          280          285
His Val Thr Lys Lys Glu Thr Tyr Arg Leu Ile Glu Gln Phe Arg Lys
          290          295          300
Glu Val Pro Gly Ile His Leu Arg Thr Thr Leu Met Val Gly His Pro
305          310          315          320
Gly Glu Thr Glu Glu Asp Phe Glu Glu Leu Lys Glu Phe Val Arg Lys
          325          330          335
Val Arg Phe Asp Arg Met Gly Ala Phe Thr Tyr Ser Glu Glu Glu Gly
          340          345          350
Thr Tyr Ala Ala Ala Asn Tyr Glu Asp Ser Ile Pro Gln Glu Leu Lys
          355          360          365
Gln Ala Arg Leu Asp Glu Leu Met Ala Ile Gln Gln Gly Ile Ser Thr
          370          375          380
Glu Leu Ser Ala Ser Lys Val Gly Gln Lys Met Lys Val Ile Ile Asp
385          390          395          400
Arg Ile Glu Gly Glu Tyr Tyr Ile Gly Arg Thr Glu Phe Asp Ser Pro
          405          410          415
Glu Val Asp Pro Glu Val Leu Ile Arg Cys Glu Gly Asp Asn Leu Met
          420          425          430
Ile Gly Asn Phe Tyr Gln Val Gln Val Ile Asp Ser Asp Glu Phe Asp
          435          440          445
Leu Phe Gly Glu Ile Ile
          450

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&lt;210&gt; 5883

&lt;211&gt; 415

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5883

```

Leu Cys Lys Ser Pro Met Phe Ala Glu Ile Ile Thr Ile Gly Asp Glu
1          5          10          15
Leu Leu Ile Gly Gln Val Thr Asp Thr Asn Ser Ala Trp Met Gly Arg
          20          25          30
Glu Leu Asn Lys Val Gly Ile Glu Val Ile Arg Val Val Ser Val Arg
          35          40          45
Asp Arg Ala Asp Glu Ile Ile Glu Ala Val Asp Ala Ser Met Lys Arg
          50          55          60
Ala Asn Ile Val Leu Val Thr Gly Gly Leu Gly Pro Thr Lys Asp Asp
65          70          75          80
Ile Thr Lys Gln Thr Leu Cys Lys Tyr Phe Gly Thr Arg Leu Ile Phe
          85          90          95
Ser Glu Ala Val Phe Glu Asn Val Lys Arg Val Leu Ala Gly Lys Ile

```

100	105	110
Pro Met Asn Ala Leu Asn Lys Ser Gln Ala Met Val	Pro Glu Asp Cys	
115	120	125
Ile Val Ile Asn Asn Arg Val Gly Ser Ala Ser Val	Ser Trp Phe Glu	
130	135	140
Lys Asp Gly Lys Val Leu Val Ser Met Pro Gly Val	Pro Gln Glu Met	
145	150	155
Thr Thr Val Met Ser Glu Glu Val Ile Pro Arg Leu	Cys Ala Lys Phe	
165	170	175
Arg Thr Gly Ala Ile Ile His Arg Thr Phe Thr Val	Gln Asn Tyr Pro	
180	185	190
Glu Ser Val Leu Ala Glu Lys Leu Glu Ser Trp Glu	Met Ala Leu Pro	
195	200	205
Ala Cys Leu Lys Leu Ala Tyr Leu Pro Lys Pro Gly	Leu Ile Arg Leu	
210	215	220
Arg Leu Thr Gly Arg Gly Gln Asn Arg Ser Glu Ile	Glu Ala Cys Val	
225	230	235
Asn Thr Glu Ser Ala Lys Leu Glu Ala Ile Leu Gly	Glu Asp Ile Leu	
245	250	255
Asp Glu Glu Asp Thr Pro Ile Glu Ile Leu Ile Gly	Glu Leu Leu Lys	
260	265	270
Lys Lys Asn Leu Thr Leu Ser Thr Ala Glu Ser Cys	Thr Gly Gly Ser	
275	280	285
Ile Ala Ala Arg Ile Thr Ser Val Ala Gly Ser Ser	Glu Tyr Phe Lys	
290	295	300
Gly Ser Ile Val Ala Tyr Ala Asn Glu Val Lys Thr	Glu Leu Leu Ser	
305	310	315
Val Ser Met Glu Thr Leu Glu Lys Arg Gly Ala Val	Ser Glu Glu Thr	
325	330	335
Val Ile Glu Met Val Lys Gly Ala Met Lys Ala Leu	Lys Thr Asp Cys	
340	345	350
Ala Val Ala Thr Ser Gly Ile Ala Gly Pro Ser Gly	Gly Thr Glu Glu	
355	360	365
Lys Pro Val Gly Thr Val Trp Ile Ala Ala Ala Tyr	Lys Ser Glu Ile	
370	375	380
Cys Thr Met Lys Gln Glu Thr Asn Arg Gly Arg Glu	Met Asn Val Glu	
385	390	395
Arg Ala Ser Asn Asn Ala Leu Leu Leu Leu Arg Lys	Leu Val Lys	
405	410	415

&lt;210&gt; 5884

&lt;211&gt; 334

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5884

Leu Val Phe Met Ala Glu Ser Ile Asp Ile Arg Glu Leu Asn Glu Arg	
1	15
Ile Glu Arg Gln Ser Ala Phe Val Thr Asn Leu Thr Thr Gly Met Asp	
20	30
Gln Ile Ile Val Gly Gln Lys His Leu Val Glu Ser Leu Leu Ile Gly	
35	45
Leu Leu Ser Asp Gly His Val Leu Leu Glu Gly Val Pro Gly Leu Ala	
50	60
Lys Thr Leu Ala Ile Lys Thr Leu Ala Ser Leu Ile Asp Ala Lys Tyr	
65	80
Ser Arg Ile Gln Phe Thr Pro Asp Leu Leu Pro Ala Asp Val Val Gly	
85	95
Thr Met Val Tyr Ser Gln Lys Asp Glu Ser Phe Gln Val Lys Lys Gly	

```

      100              105              110
Pro Ile Phe Ala Asn Phe Val Leu Ala Asp Glu Ile Asn Arg Ala Pro
      115              120              125
Ala Lys Val Gln Ser Ala Leu Glu Ala Met Gln Glu Arg Gln Val
      130              135              140
Thr Ile Gly Lys Glu Thr Phe Leu Leu Pro Glu Pro Phe Leu Val Leu
      145              150              155              160
Ala Thr Gln Asn Pro Ile Glu Gln Glu Gly Thr Tyr Pro Leu Pro Glu
      165              170              175
Ala Gln Val Asp Arg Phe Met Leu Lys Val Ile Ile Asp Tyr Pro Lys
      180              185              190
Gln Glu Glu Glu Lys Leu Ile Ile Arg Gln Asn Ile Asn Gly Glu Lys
      195              200              205
Phe Asn Val Lys Pro Ile Leu Lys Ala Glu Glu Ile Ile Glu Ala Arg
      210              215              220
Lys Val Val Arg Gln Val Tyr Leu Asp Glu Lys Ile Glu Arg Tyr Ile
      225              230              235              240
Val Asp Ile Val Phe Ala Thr Arg Tyr Pro Glu Lys Tyr Asp Leu Lys
      245              250              255
Glu Leu Lys Asp Met Ile Gly Phe Gly Gly Ser Pro Arg Ala Ser Ile
      260              265              270
Asn Leu Ala Leu Ala Ala Arg Thr Tyr Ala Phe Ile Lys Arg Arg Gly
      275              280              285
Tyr Val Ile Pro Glu Asp Val Arg Ala Val Ala His Asp Val Leu Arg
      290              295              300
His Arg Ile Gly Leu Thr Tyr Glu Ala Glu Ala Ser Asn Val Thr Ser
      305              310              315              320
Asp Glu Ile Val Ser Lys Ile Leu Asn Lys Val Glu Val Pro
      325              330

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&lt;210&gt; 5885

&lt;211&gt; 418

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5885

```

Asn Arg Arg Ile Asp Ile Ile Leu Ile Ile Asn Gln Thr Thr Ile Met
1      5      10
Lys Arg Val Leu Phe Ser Met Val Leu Leu Met Ala Val Ser Phe Ala
      20      25      30
Phe Ala Gln Glu Lys Asn Val Lys Glu Ala Lys Ser Ile Ala Gly Glu
      35      40      45
Val Lys Pro Asp Phe Ala Lys Ala Glu Gln Leu Ile Asn Glu Ala Leu
      50      55      60
Thr Asn Pro Glu Thr Lys Asp Asn Ala Ala Thr Trp Asp Val Ala Gly
      65      70      75      80
Tyr Ile Gln Lys Arg Ile Asn Glu Lys Glu Met Glu Asn Ala Tyr Leu
      85      90      95
Arg Lys Pro Tyr Asp Thr Leu Lys Val Tyr Asn Ser Val Leu Asn Met
      100      105      110
Tyr Asn Tyr Tyr Val Lys Cys Asp Glu Leu Ala Gln Ile Pro Asn Glu
      115      120      125
Lys Gly Lys Ile Lys Asn Lys Tyr Arg Ser Ala Asn Ser Lys Thr Ile
      130      135      140
Leu Ala Glu Arg Pro Asn Leu Ile Asn Gly Gly Ile Gln Tyr Phe Asn
      145      150      155      160
Leu Asn Lys Asn Glu Asp Ala Leu Lys Tyr Phe Ala Ala Tyr Val Asp
      165      170      175
Ala Ala Thr Leu Pro Met Met Glu Lys Glu Asn Leu Leu Glu Lys Asp

```

```
<210> 5886
<211> 100
<212> PRT
<213> B.fragilis
```

```
<210> 5887
<211> 146
<212> PRT
<213> B.fragilis
```

Leu Pro Met Val Lys Ile Met Lys Gly Gly Ala Val Glu Ala Gly Lys  
 1 5 10 15  
 Lys Ala Ala Lys Lys Gly Ile Gln Val Asn Val Leu Gly Val Gly Leu  
 20 25 30  
 Pro Asp Gly Ala Pro Ile Pro Ile Glu Gly Ser Asn Asp Phe Arg Arg  
 35 40 45  
 Asp Arg Glu Gly Asn Val Ile Val Thr Arg Leu Asn Glu Ala Met Cys  
 50 55 60  
 Gln Glu Ile Ala Lys Glu Gly Asn Gly Ile Tyr Val Arg Val Asp Asn  
 65 70 75 80  
 Ser Asn Ser Ala Gln Lys Ala Ile Asn Gln Glu Ile Asn Lys Met Ala  
 85 90 95  
 Lys Ser Asp Val Glu Ser Lys Val Tyr Thr Asp Tyr Asn Glu Gln Phe  
 100 105 110  
 Gln Val Ile Ala Trp Met Ile Leu Leu Leu Leu Val Glu Met Leu  
 115 120 125  
 Ile Leu Asp Arg Lys Asn Pro Leu Phe Lys Asn Ile Arg Leu Phe Ser  
 130 135 140  
 Asn Lys  
 145

&lt;210&gt; 5888

&lt;211&gt; 71

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5888

Ser Phe Leu Ser Ser Lys Gln Asp Ala Lys Ile Leu Lys Met Gly Glu  
 1 5 10 15  
 Leu Cys Ser Phe Phe Ile Tyr Asn Phe Lys Arg Gly His Thr Lys Val  
 20 25 30  
 Ile Tyr Lys Ser Ala Gly Leu Trp Ile Asp Asn Arg Pro Val Tyr Gly  
 35 40 45  
 Phe Ser Lys Asp Lys Arg Ser Pro Phe Pro Ala Leu Leu Phe Gln Arg  
 50 55 60  
 Glu Pro Tyr Ile Leu Glu Asn  
 65 70

&lt;210&gt; 5889

&lt;211&gt; 516

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5889

Thr Asn Leu Pro Pro Arg Leu Leu Gln Gly Leu Ile Asn Leu Asn Arg  
 1 5 10 15  
 Asn Arg Arg Met Glu Lys Lys Lys Ile Pro Val Ala Leu Met Ile Ala  
 20 25 30  
 Ala Gly Met Leu Leu Tyr Asn Asn Thr Val Ala Ala Gln Ser Leu Pro  
 35 40 45  
 Pro Thr Gln Glu Thr Ser Gln His Gln Leu Ser Phe Asn Glu Ala Leu  
 50 55 60  
 Gln Leu Leu His Lys Gly Asn Gln Ser Leu Lys Ile Ala Asp Lys Gly  
 65 70 75 80  
 Ile Asp Ile Ala Arg Ala Glu Arg Gly Lys Leu Asn Ala Phe Trp Met  
 85 90 95  
 Pro Ser Leu Gln Ser Thr Gly Ala Phe Val His Leu Ser Glu Lys Ile  
 100 105 110  
 Glu Val Lys Gln Pro Leu Ser Gln Phe Thr Asp Pro Ala Lys Asp Phe



```

1           5           10           15
Tyr Arg Leu Phe Glu Val Lys Thr Gln Thr Leu Pro Leu Pro Lys Pro
                20                25                30
Gly Phe Leu Gly Lys Glu Ala Glu Ser Ser Gly Thr Phe Ser Pro Ile
                35                40                45
Trp Val Arg Lys Gln Lys Gly Ile Val Ser Arg Lys Cys His Tyr Leu
                50                55                60
Ser Phe
65

```

<210> 5891  
 <211> 144  
 <212> PRT  
 <213> B.fragilis

```

<400> 5891
Phe Leu Tyr Thr Leu Pro Asp Phe Val Cys Trp Leu Pro Gly Ala Trp
1           5           10           15
Gly Ser Gly Ile His Leu Cys His Phe Leu Ser Ser Gly Thr Pro Leu
                20                25                30
Glu Arg Leu Gln Ser Val Phe Gly His Ile Asn Gly Met Pro Ala Leu
                35                40                45
Ser Ser Ala Ser Glu Ala Lys Lys Met Cys Met Phe Leu Arg Trp Met
                50                55                60
Ile Arg Arg Asp Ser Pro Val Asp Leu Gly Ile Trp Arg Ser Phe Ser
65                70                75                80
Pro Ser Asp Leu Ile Ile Pro Leu Asp Thr His Val His Arg Ile Ser
                85                90                95
Thr Asp Leu Gly Leu Thr Asn Ala Arg Lys Cys Leu Lys Thr Ala Arg
                100                105                110
Cys Ile Thr Asp Ala Leu Arg Glu Ile Trp Pro Asp Asp Pro Val Lys
                115                120                125
Gly Asp Phe Ala Leu Phe Gly Phe Gly Ile Asn Glu Pro Val Lys Ser
                130                135                140

```

<210> 5892  
 <211> 268  
 <212> PRT  
 <213> B.fragilis

```

<400> 5892
Gln Gly Gly Ala Gly Met Ala Asn Trp Ile Thr Leu Lys Gln Leu Ser
1           5           10           15
Glu Lys Arg Gly Ile Ala Glu Ser Asp Leu Arg Thr Trp Ala Asn Leu
                20                25                30
Gly Tyr Ile Thr Ser Ser Arg Ile Glu Asn Val Leu Met Ile Asp Asp
                35                40                45
Glu Ser Leu Thr Gln Tyr Leu Asp Val His Gln Thr Lys Asp Leu Gly
                50                55                60
Glu Asn Tyr Leu Glu Lys Ile Ile Lys Glu Lys Glu Leu Glu Arg Glu
65                70                75                80
Val Leu Leu Ser Gln Cys Asp Asp Glu Leu Phe Leu Leu Lys Thr Gln
                85                90                95
Lys Leu His Gln Pro Leu Phe His Ile Leu Ile Gln Glu Leu Gly Gln
                100                105                110
Leu Ile Thr Asp Asp His Glu Arg Glu Ile Phe Leu Ser Val Ser Ser
                115                120                125
Gly Glu Pro Ile Ala Arg Val Ala Lys Arg Asn Lys Met Thr Tyr Ala
                130                135                140

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```

Arg Val Ala Thr Cys Tyr Ser Ser Ile Leu Arg Thr Leu Gly Glu His
145          150          155          160
Lys Gly Arg Ile Ala Thr Phe Arg Ser Arg Thr Met Glu Leu Met Phe
          165          170          175
Asp Lys Cys Asn Ala Val Thr Pro Val Asn Thr Pro Leu Ser Asn Leu
          180          185          190
Val Gly Ala His Ala Tyr Asn Val Leu Tyr Gly Glu Met Gly Phe Arg
          195          200          205
Thr Val Arg Asp Leu Leu Gln Tyr Ala Thr Gln Asn Gly Trp Gln Ser
          210          215          220
Leu Arg Arg Phe Lys Gly Met Gly Leu Val Thr Tyr Lys Ser Val Met
225          230          235          240
Asn Ala Leu Arg Asp Ala Asn Phe Ile Ile Val Arg Lys Asp Gly Asn
          245          250          255
Ile Glu Leu Ser Pro Glu Ile Ala Ala Leu Val Ile
          260          265

```

<210> 5893

<211> 413

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (379)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 5893

```

Glu Lys Arg Tyr Ser Gln Trp Asp Ser Val Leu Leu Cys Gly Lys Ser
1          5          10          15
Lys Leu Lys Asp Asn Leu Ile Met Gln His Ser Pro Ile Thr Arg Val
          20          25          30
Ile Gln Cys Glu Trp Gln Arg Met Thr Ser Arg Arg Leu Tyr Phe Gly
          35          40          45
Val Cys Leu Val Leu Pro Leu Phe Thr Leu Phe Phe Met Ala Thr Ile
          50          55          60
Phe Gly Asn Gly Gln Met Glu Asn Ile Pro Ile Gly Ile Val Asp Arg
65          70          75          80
Asp Asn Thr Ala Thr Ser Arg Asp Ile Thr Arg Arg Met Ser Ala Val
          85          90          95
Pro Thr Phe Arg Val Thr Arg His Phe Val Asp Glu Ala Glu Ala Arg
          100          105          110
Lys Ala Val Gln Gln Lys Glu Ile Tyr Gly Tyr Leu Ser Ile Pro Pro
          115          120          125
Arg Phe Glu Gln Asp Met Ile Ser Gly Gln Asp Ala Thr Leu Asn Tyr
          130          135          140
Tyr Tyr His Tyr Ala Leu Leu Ser Val Gly Gly Glu Leu Met Ala Ala
145          150          155          160
Phe Glu Ser Ser Leu Ala Pro Val Ala Leu Ser Pro Ile Val Met Lys
          165          170          175
Ala Val Ala Leu Gly Val Asn Glu Gln Gln Ile Glu Thr Phe Leu Leu
          180          185          190
Pro Val Gln Ala Asn Asn His Pro Ile Tyr Asn Pro Ser Leu Asp Tyr
          195          200          205
Ser Val Tyr Leu Ser Gln Pro Phe Phe Phe Val Leu Phe Gln Val Leu
          210          215          220
Val Leu Leu Ile Thr Val Tyr Ala Val Gly Ser Glu Ile Lys Phe Gly
225          230          235          240
Thr Ala Gly Gln Trp Leu Gln Ala Ala Gly Gly Asp Ile Thr Val Ala

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245

250

<210> 5895  
 <211> 500  
 <212> PRT  
 <213> B.fragilis

<400> 5895

Arg	Asp	Glu	His	Asp	Met	Asn	Lys	Asn	Leu	His	Pro	Leu	Met	Leu	Ala
1				5					10					15	
Gly	Thr	Gly	Ser	Asp	Val	Gly	Lys	Ser	Ile	Ile	Ala	Ala	Ala	Phe	Cys
			20					25					30		
Arg	Ile	Phe	Leu	Gln	Asp	Gly	Tyr	His	Pro	Ala	Pro	Phe	Lys	Ala	Gln
		35					40					45			
Asn	Met	Ala	Leu	Asn	Ser	Tyr	Ala	Thr	Pro	Glu	Gly	Leu	Glu	Ile	Gly
	50					55					60				
Arg	Ala	Gln	Ala	Val	Gln	Ala	Glu	Ala	Ala	Gly	Val	Pro	Cys	His	Thr
65					70					75					80
Asp	Met	Asn	Pro	Leu	Leu	Leu	Lys	Pro	Ser	Ser	Asp	His	Thr	Ser	Gln
				85					90					95	
Val	Val	Leu	Asn	Gly	Arg	Pro	Ile	Gly	Asn	Arg	Asn	Ala	Tyr	Glu	Tyr
			100					105					110		
Phe	Arg	Arg	Glu	Gly	Arg	Glu	Glu	Leu	Arg	Lys	Glu	Val	His	Ala	Ala
		115					120					125			
Phe	Asp	Arg	Leu	Ala	Ala	Arg	Tyr	Asn	Pro	Val	Val	Met	Glu	Gly	Ala
	130					135					140				
Gly	Ser	Ile	Ser	Glu	Ile	Asn	Leu	Arg	Asp	Ser	Asp	Leu	Val	Asn	Leu
145					150					155					160
Pro	Met	Ala	Met	His	Ala	Gly	Ala	Asp	Val	Ile	Leu	Val	Ala	Asp	Ile
				165					170					175	
Asp	Arg	Gly	Gly	Val	Phe	Ala	Ser	Val	Tyr	Gly	Ser	Val	Met	Leu	Leu
			180					185					190		
Arg	Pro	Glu	Glu	Arg	Lys	His	Ile	Lys	Gly	Ile	Leu	Ile	Asn	Lys	Phe
		195					200						205		
Arg	Gly	Asp	Ile	Arg	Leu	Phe	Glu	Ser	Gly	Val	Lys	Met	Leu	Glu	Asp
	210					215					220				
Leu	Cys	Gly	Val	Pro	Val	Val	Gly	Val	Val	Pro	Tyr	Tyr	Lys	Asp	Ile
225					230					235					240
Tyr	Ile	Glu	Glu	Glu	Asp	Ser	Val	Met	Leu	Gln	Thr	Lys	Asn	Ile	Arg
				245					250					255	
Ala	Gly	Gln	Gly	Lys	Val	Asn	Val	Ala	Val	Val	Leu	Leu	Arg	His	Leu
			260					265						270	
Ser	Asn	Phe	Thr	Asp	Phe	Asn	Val	Leu	Glu	Arg	Asp	Pro	Arg	Val	His
		275					280					285			
Leu	Phe	Tyr	Thr	Asn	Asn	Thr	Asp	Glu	Leu	Met	Lys	Ala	Asp	Ile	Ile
	290					295					300				
Leu	Leu	Pro	Gly	Ser	Lys	Ser	Thr	Leu	Ser	Asp	Leu	Tyr	Glu	Leu	Arg
305					310					315					320
Arg	Asn	Gly	Val	Ala	Gln	Ala	Ile	Val	Arg	Ala	His	Arg	Glu	Gly	Ala
				325					330					335	
Thr	Val	Met	Gly	Ile	Cys	Gly	Gly	Tyr	Gln	Leu	Met	Gly	Arg	Glu	Val
		340						345					350		
Cys	Asp	Pro	Asp	His	Val	Glu	Gly	Glu	Ile	Glu	Arg	Leu	Pro	Gly	Leu
	355						360					365			
Gly	Leu	Pro	Val	Ser	Thr	Arg	Met	Gln	Gly	Glu	Lys	Val	Thr	Arg	
	370					375				380					
Gln	Val	Arg	Phe	Cys	Phe	Leu	Glu	Asp	Ser	Ala	Val	Cys	Glu	Gly	Tyr
385					390					395					400
Glu	Ile	His	Met	Gly	Thr	Thr	Thr	Pro	Leu	Ala	Asp	Val	Pro	Val	Ser

405 410 415  
 Pro Leu Asn His Leu Ala Asp Gly Arg Glu Asp Gly Tyr Phe Val Asp  
 420 425 430  
 Arg Thr Cys Met Gly Thr Tyr Val His Gly Ile Leu Asp Asn Pro Ser  
 435 440 445  
 Val Ile Asp Tyr Leu Leu Glu Pro Phe Ala Asp Lys Leu Lys Glu Thr  
 450 455 460  
 Ala Phe Asp Tyr Lys Ala Phe Lys Glu Glu Gln Tyr Asp Lys Leu Ala  
 465 470 475 480  
 Ala His Val Arg Lys His Val Asp Leu Pro Leu Ile Tyr Gln Ile Leu  
 485 490 495  
 Thr Asp Asn Asp  
 500

&lt;210&gt; 5896

&lt;211&gt; 400

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5896

Ser Val Val Asn Met Lys Thr Ser Gly Lys Leu Ser Gln Ile Ser Phe  
 1 5 10 15  
 Ile Ile Ala Arg Glu Phe Arg Ala Ile Ser Thr Ser Tyr Ala Val Leu  
 20 25 30  
 Leu Val Leu Met Gly Gly Ile Phe Val Tyr Gly Leu Leu Tyr Asn Tyr  
 35 40 45  
 Met Tyr Ala Pro Asn Ile Val Thr Asp Ala Pro Val Ala Val Val Asp  
 50 55 60  
 Asn Ser His Ser Ser Leu Ser Arg Gln Tyr Ile Arg Trp Leu Asp Ala  
 65 70 75 80  
 Thr Pro Gln Val Ala Val Tyr Ala Gln Ala Met Asp Tyr Arg Glu Ala  
 85 90 95  
 Arg Glu Trp Met Lys Glu Gly Lys Val Gln Gly Ile Leu Tyr Ile Pro  
 100 105 110  
 His Asp Phe Glu Thr Arg Val Phe Gln Gly Arg Glu Ala Val Phe Ser  
 115 120 125  
 Leu Tyr Ala Thr Thr Asp Ala Phe Leu Tyr Phe Glu Ala Leu Gln Glu  
 130 135 140  
 Ala Thr Ser Arg Val Tyr Leu Ala Ile Asn Asp Ala His Arg Met Asp  
 145 150 155 160  
 Gly Ala Val Phe Leu Pro Pro Gln Gly Leu Leu Ala Val Ala Met Ala  
 165 170 175  
 Lys Pro Val Asn Val Thr Gly Thr Ala Leu Tyr Asn His Thr Glu Gly  
 180 185 190  
 Tyr Gly Ser Tyr Leu Ile Pro Ala Val Met Met Val Ile Ile Phe Gln  
 195 200 205  
 Thr Leu Leu Met Val Ile Gly Met Leu Thr Gly Asp Glu Tyr Gln His  
 210 215 220  
 Arg Ala Thr Glu Pro Leu Leu Pro Gly Gly Arg Thr Val Asp Lys Ser  
 225 230 235 240  
 Gly Leu Trp Gly Gly Ala Met Arg Leu Val Ala Gly Lys Thr Phe Val  
 245 250 255  
 Tyr Cys Gly Leu Tyr Thr Val Phe Ser Met Phe Leu Leu Gly Leu Leu  
 260 265 270  
 Pro His Phe Ser Ile Pro Asn Ile Gly Asn Gly Leu Tyr Ile Thr  
 275 280 285  
 Ala Met Met Val Pro Tyr Leu Met Ala Thr Ser Phe Phe Gly Leu Ala  
 290 295 300  
 Ala Ser Arg Tyr Phe Thr Asp Ser Glu Ala Pro Leu Leu Met Ile Ala

```

305          310          315          320
Phe Phe Ser Val Gly Leu Ile Phe Leu Ser Gly Val Ser Tyr Pro Leu
          325          330          335
Glu Leu Met Pro Trp Tyr Trp Arg Met Ala His Tyr Ile Leu Pro Ala
          340          345          350
Ala Pro Ala Thr Leu Ala Phe Val Lys Leu Asn Ser Met Gly Ala Asp
          355          360          365
Met Ala Asp Ile Gln Pro Glu Tyr Ile Thr Leu Trp Ile Gln Val Ile
          370          375          380
Val Tyr Phe Gly Leu Ser Val Trp Val Tyr Lys Lys Lys Leu Glu Ala
385          390          395          400

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<210> 5897

<211> 321

<212> PRT

<213> B.fragilis

<400> 5897

```

Pro Ser Pro Lys Ala Leu Trp Glu His Leu Lys Asn Trp Pro Cys Arg
1          5          10          15
Ser Gly Leu Ser Gln Gln Thr Leu Thr Pro Glu Leu Arg His Pro Gln
          20          25          30
Asn Ile Ile Phe Ala Ala Asp His Gly Ile Val Asp Glu Gly Val Ser
          35          40          45
Leu Ser Pro Lys Glu Ile Thr Trp Gln Gln Ile Ser Asn Phe Leu His
          50          55          60
Gly Gly Ala Gly Val Asn Phe Leu Cys Arg Gln His Gly Phe Glu Leu
65          70          75          80
Lys Ile Val Asp Ala Gly Val Asp Tyr Asp Leu Pro Tyr Glu Lys Gly
          85          90          95
Ile Ile Asn Met Lys Val Arg Lys Ser Ser Arg Asn Tyr Leu Tyr Glu
          100          105          110
Ala Ala Met Thr Glu Glu Glu Met Asn Leu Cys Ile Glu Arg Gly Ala
          115          120          125
Glu Val Val Arg Gln Cys His Ala Glu Gly Cys Asn Val Leu Ser Leu
          130          135          140
Gly Glu Met Gly Ile Gly Asn Thr Ser Ser Ser Ser Met Trp Met Thr
145          150          155          160
Cys Phe Thr His Ile Pro Leu Glu Leu Cys Val Gly Ala Gly Ser Gly
          165          170          175
Leu Asp Asn Ala Gly Val Arg His Lys Tyr Asn Val Leu Gln Gln Ala
          180          185          190
Leu Asp His Tyr Gln Gly Asp Gly Ser Ala His Asp Leu Ile Arg Tyr
          195          200          205
Phe Gly Gly Leu Glu Met Val Met Ala Ile Gly Ala Met Leu Gln Ala
          210          215          220
Ala Glu Leu Lys Met Ile Ile Leu Val Asp Gly Phe Ile Met Thr Asn
225          230          235          240
Cys Ile Leu Ala Ala Ser Gln Leu Tyr Pro Glu Val Leu His Tyr Ala
          245          250          255
Ile Phe Gly His Gln Gly Asp Glu Ser Gly His Lys Leu Val Leu Asp
          260          265          270
Ala Met Gly Ala Lys Pro Leu Leu Asn Leu Gly Leu Arg Leu Gly Glu
          275          280          285
Gly Thr Gly Ala Ile Cys Ser Tyr Pro Ile Ile Asp Ser Ala Ile Arg
          290          295          300
Met Ile Asn Glu Met Asp Asn Phe Ala His Ala Ala Ile Thr Lys Tyr
305          310          315          320
Phe

```

<210> 5898  
 <211> 206  
 <212> PRT  
 <213> B.fragilis

<400> 5898

```

Ser His Ala Lys Ile Asn Ile Val Ser Glu Ile Pro Ile Ala Met Ala
1          5          10          15
Gln Tyr Phe Ala Ser Gly Asn Gly Asn Ile Lys Tyr Tyr Arg Thr Phe
          20          25          30
Ala Asn Gln Lys Tyr Thr Asp Arg Phe Met Lys Gln Ile Ile Leu Ile
          35          40          45
Thr Gly Gly Ala Arg Ser Gly Lys Ser Ser Tyr Ala Glu Arg Leu Ala
          50          55          60
Leu Ser Leu Ser Pro Asn Pro Val Tyr Leu Ala Thr Ser Arg Ile Trp
65          70          75          80
Asp Glu Glu Phe Arg Gln Arg Val Leu Arg His Gln Ala Asn Arg Gly
          85          90          95
Pro Glu Trp Thr Asn Ile Glu Glu Glu Lys Glu Leu Ser Arg His Ser
100          105          110
Leu Glu Gly Arg Val Val Leu Ile Asp Cys Val Thr Leu Trp Cys Thr
115          120          125
Asn Tyr Phe Phe Asp Leu Glu Ala Asp Thr Asp Lys Ala Leu Thr Ala
130          135          140
Val Lys Ala Glu Phe Asp Arg Leu Thr Gln Gln Asp Ala Thr Leu Ile
145          150          155          160
Phe Val Thr Asn Glu Ile Gly Met Gly Gly Thr Ser Glu Asn Leu Ile
          165          170          175
Gln Arg Lys Phe Thr Asp Met Gln Gly Trp Met Thr Gln Tyr Ile Ala
          180          185          190
Ser Arg Ala Asn Arg Val Ile Leu Met Glu Arg Gly Phe Leu
          195          200          205

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<210> 5899  
 <211> 502  
 <212> PRT  
 <213> B.fragilis

<400> 5899

```

Lys Lys Lys Asn Ile Met Ala Lys Glu Leu Lys Asp Leu Thr Lys Arg
1          5          10          15
Ser Glu Asn Tyr Ser Gln Trp Tyr Asn Asp Leu Val Val Lys Ala Asp
          20          25          30
Leu Ala Glu Gln Ser Ala Val Arg Gly Cys Met Val Ile Lys Pro Tyr
          35          40          45
Gly Tyr Ala Ile Trp Glu Lys Met Gln Arg Gln Leu Asp Asp Met Phe
          50          55          60
Lys Glu Thr Gly His Val Asn Ala Tyr Phe Pro Leu Leu Ile Pro Lys
65          70          75          80
Ser Phe Leu Ser Arg Glu Ala Glu His Val Glu Gly Phe Ala Lys Glu
          85          90          95
Cys Ala Val Val Thr His Tyr Arg Leu Lys Asn Ala Glu Asp Gly Ser
100          105          110
Gly Val Val Val Asp Pro Ala Ala Lys Leu Glu Glu Glu Leu Ile Ile
115          120          125
Arg Pro Thr Ser Glu Thr Ile Ile Trp Asn Thr Tyr Lys Asn Trp Ile
130          135          140

```

Gln Ser Tyr Arg Asp Leu Pro Ile Leu Cys Asn Gln Trp Ala Asn Val  
 145 150 155 160  
 Phe Arg Trp Glu Met Arg Thr Arg Leu Phe Leu Arg Thr Ala Glu Phe  
 165 170 175  
 Leu Trp Gln Glu Gly His Thr Ala His Ala Thr Arg Glu Glu Ala Glu  
 180 185 190  
 Glu Glu Ala Ile Arg Met Leu Asn Val Tyr Ala Glu Phe Ala Glu Lys  
 195 200 205  
 Tyr Met Ala Val Pro Val Val Lys Gly Val Lys Ser Ala Asn Glu Arg  
 210 215 220  
 Phe Ala Gly Ala Leu Asp Thr Tyr Thr Ile Glu Ala Met Met Gln Asp  
 225 230 235 240  
 Gly Lys Ala Leu Gln Ser Gly Thr Ser His Phe Leu Gly Gln Asn Phe  
 245 250 255  
 Ala Lys Ala Phe Asp Val Gln Phe Val Asn Lys Glu Asn Lys Leu Glu  
 260 265 270  
 Tyr Val Trp Ala Thr Ser Trp Gly Val Ser Thr Arg Leu Met Gly Ala  
 275 280 285  
 Leu Ile Met Thr His Ser Asp Asp Asn Gly Leu Val Leu Pro Pro His  
 290 295 300  
 Leu Ala Pro Ile Gln Val Val Ile Val Pro Ile Tyr Lys Asn Asp Glu  
 305 310 315 320  
 Gln Leu Lys Leu Ile Asp Ala Lys Val Glu Gly Ile Val Ala Arg Leu  
 325 330 335  
 Lys Gln Leu Gly Ile Ser Val Lys Tyr Asp Asn Ala Asp Asn Lys Arg  
 340 345 350  
 Pro Gly Phe Lys Phe Ala Asp Tyr Glu Leu Lys Gly Val Pro Val Arg  
 355 360 365  
 Leu Val Met Gly Gly Arg Asp Leu Glu Asn Asn Thr Met Glu Val Met  
 370 375 380  
 Arg Arg Asp Thr Leu Glu Lys Glu Thr Val Thr Cys Asp Gly Ile Glu  
 385 390 395 400  
 Thr Tyr Val Gln Asn Leu Leu Glu Glu Ile Gln Ala Asn Ile Tyr Lys  
 405 410 415  
 Lys Ala Arg Thr Tyr Arg Asp Ser Arg Ile Thr Thr Val Asp Ser Tyr  
 420 425 430  
 Asp Glu Phe Lys Glu Lys Ile Glu Glu Gly Gly Phe Ile Leu Ala His  
 435 440 445  
 Trp Asp Gly Thr Val Glu Thr Glu Glu Lys Ile Lys Glu Glu Thr Lys  
 450 455 460  
 Ala Thr Ile Arg Cys Ile Pro Phe Glu Ser Phe Val Glu Gly Asp Lys  
 465 470 475 480  
 Glu Pro Gly Lys Cys Met Val Thr Gly Lys Pro Ser Ala Cys Arg Val  
 485 490 495  
 Ile Phe Ala Arg Ser Tyr  
 500

&lt;210&gt; 5900

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5900

Val Tyr Met Lys Gln Glu Leu Lys Glu Lys Leu Leu Leu Leu Ala Asp  
 1 5 10 15  
 Lys Tyr Glu Val Lys Glu Phe Ile Met Asp Asp Pro Ile Gln Phe Pro  
 20 25 30  
 His Arg Tyr Thr Asp Lys Ala Asp Ile Glu Ile Ser Gly Leu Ile Ala  
 35 40 45

Phe Trp Ile Ala Thr Gly Asn Arg Lys Ala Ile Ile Lys Ser Gly Asp  
 50 55 60  
 Arg Ile Asp His Glu Leu Phe Leu Asn Ala Pro Tyr Arg Tyr Ile Leu  
 65 70 75 80  
 Ser Glu Glu Trp Arg Lys Tyr Arg Gly Ser Asn Ile Gln Phe Phe Ile  
 85 90 95  
 Ala Ile Thr Pro Gly Met Ile Ser Ile Tyr Ser Ala Arg Leu Cys Met  
 100 105 110  
 Leu Ala Thr Gly Ser Met Gly Ile Trp Asn Pro Phe Val Pro Phe Ser  
 115 120 125  
 Leu Phe Arg Tyr Ala Ile Gly Lys Ile Ala Ile Gly Val Arg Thr Tyr  
 130 135 140  
 Gln Trp Asp Ala Cys Phe Val Lys Cys Phe Arg Ser Lys Glu Asn Val  
 145 150 155 160  
 Tyr Val Ser Ala Leu Asp Asp Ser  
 165

<210> 5901

<211> 114

<212> PRT

<213> B.fragilis

<400> 5901

Ser Val Val Lys Phe Ile Ile Thr Tyr Ser Phe Val Lys Leu Val Pro  
 1 5 10 15  
 Tyr Lys Met Phe Ser Gly Ser Lys Arg Gln Val Met Ala Phe Ser Ala  
 20 25 30  
 Asn Tyr Pro Phe Leu Phe Ser Tyr Pro Tyr Arg Gly Glu Cys Pro Gly  
 35 40 45  
 Thr Phe Cys Phe Phe Ala Gln Lys Thr Gly Leu Gly Lys Gly Lys Ser  
 50 55 60  
 Leu Cys Phe His Phe Glu Glu Pro Ile Phe Arg Pro Lys Glu Val Ser  
 65 70 75 80  
 Ile Tyr Ser Glu Arg Arg Leu Cys Phe Ser Lys Met Asn Lys Ser Phe  
 85 90 95  
 Ala Gln Tyr Leu Tyr Met Phe Ser Ser Ile Thr Tyr Ile Val Leu Ile  
 100 105 110  
 Trp Glu

<210> 5902

<211> 333

<212> PRT

<213> B.fragilis

<400> 5902

Glu Met Glu Asn Ser Glu Ser Lys Lys Gly Arg Thr Leu Ser Ile Ala  
 1 5 10 15  
 Phe Ile Val Val Leu Val Ala Val Ala Leu Phe Thr Val Ile Gly Met  
 20 25 30  
 Ile Ala Met Arg His Gln Pro Leu Val Leu Gln Gly Gln Ala Glu Ala  
 35 40 45  
 Thr Glu Ile Arg Ile Ser Gly Lys Leu Pro Gly Arg Ile Asp Thr Phe  
 50 55 60  
 Leu Val Glu Glu Gly Gln Trp Val Lys Gln Gly Asp Thr Leu Val Val  
 65 70 75 80  
 Ile Asn Ser Pro Thr Val Glu Ala Lys Tyr Arg Gln Val Asp Ala Leu  
 85 90 95  
 Lys Gln Val Ala Val Glu Gln Asn Lys Lys Ile Asp Ala Gly Thr Arg

	100		105		110										
Lys	Gln	Ile	Ile	Ala	Thr	Ala	Gln	Gln	Leu	Trp	Asn	Lys	Thr	Gln	Ser
	115						120					125			
Asp	Leu	Thr	Leu	Ala	Arg	Thr	Thr	Tyr	Asn	Arg	Ile	Leu	Thr	Leu	Tyr
	130					135					140				
Lys	Asp	Ser	Val	Val	Thr	Ser	Gln	Arg	Lys	Asp	Glu	Val	Glu	Ala	Met
145					150					155					160
Tyr	Lys	Ala	Ala	Gln	Ala	Ala	Glu	Arg	Ala	Ala	Tyr	Glu	Gln	Tyr	Gln
			165						170					175	
Met	Ala	Val	Asp	Gly	Ala	Gln	Ser	Glu	Asp	Lys	Ala	Ser	Ala	Arg	Ser
		180						185					190		
Met	Val	Asn	Ala	Ala	Asn	Ser	Thr	Val	Asp	Glu	Val	Ser	Ser	Leu	Leu
	195						200					205			
Val	Asp	Ala	Arg	Leu	Ile	Ala	Pro	Glu	Asp	Gly	Gln	Ile	Ala	Thr	Ile
	210					215					220				
Phe	Pro	Lys	Arg	Gly	Glu	Leu	Val	Ala	Pro	Gly	Thr	Pro	Ile	Met	Asn
225					230					235					240
Leu	Val	Val	Met	Asp	Asp	Ile	His	Val	Val	Leu	Asn	Val	Arg	Glu	Asp
			245						250					255	
Leu	Met	Pro	Asp	Phe	Arg	Met	Gly	Gly	Thr	Phe	Ile	Gly	Asp	Val	Pro
		260					265						270		
Ala	Leu	Ala	Gln	Lys	Gly	Ile	Gly	Phe	Lys	Ile	Tyr	Tyr	Ile	Ser	Pro
	275					280						285			
Leu	Gly	Ser	Phe	Ala	Thr	Trp	Lys	Ser	Thr	Lys	Gln	Thr	Gly	Ser	Tyr
	290					295					300				
Asp	Leu	Gln	Thr	Phe	Glu	Ile	His	Ala	Arg	Pro	Thr	Lys	Lys	Val	Glu
305					310				315						320
Gly	Leu	Arg	Pro	Gly	Met	Ser	Val	Leu	Val	Glu	Ile	Lys			
			325					330							

&lt;210&gt; 5903

&lt;211&gt; 136

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5903

Glu	Pro	Glu	Lys	Ala	Ser	Gln	Asp	Arg	Pro	Lys	Asn	Tyr	Leu	Gln	Asn
1			5						10					15	
Leu	Ser	Glu	Lys	Gly	Lys	Val	Met	Ile	Glu	Ile	His	Thr	Ile	Val	Thr
		20						25					30		
Phe	Asp	Lys	Glu	Met	Lys	Arg	Leu	Ser	Lys	Lys	Tyr	His	Ser	Ile	Ile
	35						40					45			
Lys	Asp	Tyr	Ala	Ala	Leu	Ile	Glu	Asp	Leu	Lys	Lys	Asn	Pro	His	Ile
	50					55					60				
Gly	Val	Asp	Leu	Gly	Asn	Gly	Ile	Arg	Lys	Val	Arg	Met	Ala	Ile	Ala
65					70				75					80	
Ser	Lys	Gly	Lys	Gly	Lys	Ser	Gly	Gly	Ala	Arg	Val	Ile	Thr	Asp	Thr
				85				90					95		
Ser	Ala	Ile	Ile	Ser	Val	Glu	Glu	Gly	Arg	Val	Thr	Leu	Leu	Thr	Ile
		100					105					110			
Tyr	Asp	Lys	Ser	Asp	Arg	Glu	Asn	Ile	Ser	Asp	Asn	Glu	Ile	Ile	Arg
	115					120					125				
Leu	Gln	Glu	Ile	Leu	Lys	Lys									
	130				135										

&lt;210&gt; 5904

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis



&lt;400&gt; 5904

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Lys Gln Phe Asp Met Ile Ala Leu Asp Ile Leu Ser Asp Gly Phe Phe
1      5      10      15
Ala Ala Ile Ala Gly Ile Gly Phe Gly Ala Ile Ser Asp Pro Pro Leu
      20      25      30
Arg Ala Phe Lys Met Ile Ala Ile Leu Ala Ala Ala Gly His Ala Cys
      35      40      45
Arg Tyr Cys Leu Met Thr Phe Leu Gly Val Asp Ile Ala Thr Ala Ser
      50      55      60
Leu Phe Gly Ala Leu Val Ile Gly Phe Gly Ser Leu Trp Leu Gly Arg
65      70      75      80
Lys Val Tyr Cys Pro Met Thr Val Leu Tyr Ile Pro Ala Leu Leu Pro
      85      90      95
Met Ile Pro Gly Lys Phe Ala Tyr Asn Met Val Phe Ser Leu Ile Met
      100     105     110
Ser Leu Gln Thr Met Asn Glu Pro Glu Arg Leu Gly Lys Tyr Met Glu
      115     120     125
Thr Phe Phe Ser Asn Gly Leu Val Thr Cys Thr Val Ile Phe Met Leu
      130     135     140
Ala Val Gly Ala Thr Phe Pro Met Phe Leu Leu Pro His Lys Ala Phe
145     150     155     160
Ser Leu Thr Arg His
      165

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&lt;210&gt; 5905

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5905

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Asn Asp Leu Cys Ala Phe Ser Phe Leu Ser Phe Leu Tyr Phe Cys Ala
1      5      10      15
Arg Phe Lys Lys Val Ser Asn Phe Met Thr Thr Asn Glu Ser Leu Ile
      20      25      30
Ser Ile Ser Lys Phe Ile Ala Gly Tyr Ser Ala His Leu Met Gly Ala
      35      40      45
Gly Val His Thr Ser Arg Val Ile Arg Asn Ser Lys Arg Ile Gly Glu
      50      55      60
Ala Tyr Gly Val Asp Val Lys Leu Ser Val Phe His Lys Asn Ile Ile
65      70      75      80
Leu Thr Ile Ile Asp Asn Glu Thr Arg Glu Ala Cys Asn Glu Val Ile
      85      90      95
Asp Ile Pro Pro His Pro Ile Ser Phe Glu His Asn Ser Glu Leu Ser
      100     105     110
Ala Leu Ser Trp Glu Val Tyr Asp Lys His Leu Ser Leu His Glu Leu
      115     120     125
Ser Asp Lys Phe Asn Lys Ile Ile Ser Ala Pro Lys Ile Asp Pro Leu
      130     135     140
Phe Val Leu Leu Leu Val Gly Phe Ala Asn Ala Ser Phe Cys Lys Leu
145     150     155     160
Phe Gly Gly Asp Ile Ile Ser Met Gly Ile Val Phe Ser Ala Thr Ile
      165     170     175
Thr Gly Leu Phe Leu Lys Gln Gln Met Gln Lys Lys Lys Ile Asn His
      180     185     190
Tyr Ile Ile Phe Ile Val Ser Ala Phe Val Ala Ser Leu Cys Ala Ser
      195     200     205
Thr Ala Leu Ile Phe Asp Thr Thr Ser Glu Ile Ala Leu Ala Thr Ser
      210     215     220

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Val Leu Tyr Leu Val Pro Gly Val Pro Leu Ile Asn Gly Val Ile Asp  
 225 230 235 240  
 Ile Val Glu Gly Tyr Ile Leu Thr Gly Phe Ala Arg Leu Thr Glu Ala  
 245 250 255  
 Ala Leu Leu Ile Val Ser Ile Ala Ile Gly Leu Ser Phe Thr Leu Leu  
 260 265 270  
 Met Val Lys Asn Ser Leu Ile  
 275

<210> 5906

<211> 580

<212> PRT

<213> B.fragilis

<400> 5906

Ser Pro Leu Arg Gly Tyr Val Asn Lys Tyr Ser Ile Asn Ile Thr Phe  
 1 5 10 15  
 Tyr Thr Met Glu Leu Leu Arg Asn Leu Phe Glu Gly Tyr Pro Asn Leu  
 20 25 30  
 Trp Gly Gly Gly Val Ala His Ser Val Leu Ile Leu Ser Leu Val Ile  
 35 40 45  
 Ala Phe Gly Ile Met Leu Gly Lys Ile Lys Val Ala Gly Ile Ser Leu  
 50 55 60  
 Gly Val Thr Trp Ile Leu Phe Val Gly Ile Val Phe Gly His Phe Asn  
 65 70 75 80  
 Leu Asn Leu Asn Glu His Leu Leu His Phe Leu Lys Glu Phe Gly Leu  
 85 90 95  
 Ile Leu Phe Val Tyr Ser Ile Gly Leu Gln Val Gly Pro Gly Phe Phe  
 100 105 110  
 Ser Ala Phe Lys Lys Gly Gly Phe Thr Leu Asn Met Leu Ala Met Ile  
 115 120 125  
 Val Val Phe Ala Gly Val Ile Ile Thr Leu Ala Leu His Phe Ile Thr  
 130 135 140  
 Gly Ile Pro Ile Thr Thr Met Val Gly Ile Leu Ser Gly Ala Val Thr  
 145 150 155 160  
 Asn Thr Pro Gly Leu Gly Ala Ala Gln Gln Ala Asn Ser Asp Leu Thr  
 165 170 175  
 Gly Ile Asp Ala Pro Glu Ile Ala Leu Gly Tyr Ala Val Ala Tyr Pro  
 180 185 190  
 Leu Gly Val Val Gly Cys Ile Met Ser Leu Leu Gly Leu Lys Tyr Leu  
 195 200 205  
 Phe Arg Ile Asn Thr Lys Gln Glu Glu Ala Glu Ala Glu Gln Gly Leu  
 210 215 220  
 Gly His Leu Gln Glu Leu Thr Val Arg Pro Val Ser Leu Glu Val Arg  
 225 230 235 240  
 Asn Glu Ala Leu His Gly Lys Arg Ile Lys Asp Ile Arg Pro Leu Val  
 245 250 255  
 Asn Arg Asn Phe Val Val Ser Arg Ile Arg His Leu Asn Gly Lys Lys  
 260 265 270  
 Glu Ser Glu Leu Val Asn Ser Asp Thr Glu Leu His Leu Gly Asp Glu  
 275 280 285  
 Ile Leu Val Ile Ala Thr Pro Ile Asp Ile Glu Ala Ile Thr Ala Phe  
 290 295 300  
 Phe Gly Lys Pro Ile Glu Val Glu Trp Glu Gln Leu Asn Lys Glu Leu  
 305 310 315 320  
 Ile Ser Arg Arg Ile Leu Ile Thr Lys Pro Glu Leu Asn Gly Lys Thr  
 325 330 335  
 Leu Ala Gln Leu Lys Ile Arg Asn Asn Phe Gly Ala Ser Val Thr Arg  
 340 345 350

Val Asn Arg Ser Gly Val Asp Leu Val Ala Ser Pro Gln Leu Gln Leu  
 355 360 365  
 Gln Met Gly Asp Arg Val Thr Ile Val Gly Ser Glu Leu Ala Val Ser  
 370 375 380  
 His Ala Glu Lys Val Leu Gly Asn Ser Met Lys Arg Leu Asn His Pro  
 385 390 395 400  
 Asn Leu Ile Pro Ile Phe Leu Gly Ile Ala Leu Gly Cys Ile Leu Gly  
 405 410 415  
 Ser Ile Pro Phe Met Phe Pro Gly Ile Pro Gln Pro Val Lys Leu Gly  
 420 425 430  
 Leu Ala Gly Gly Pro Leu Ile Val Ser Ile Leu Ile Ser Arg Phe Gly  
 435 440 445  
 Pro Gln Tyr Lys Leu Ile Thr Tyr Thr Thr Met Ser Ala Asn Leu Met  
 450 455 460  
 Ile Arg Glu Ile Gly Ile Ser Leu Phe Leu Ala Cys Val Gly Leu Gly  
 465 470 475 480  
 Ala Gly Asp Gly Phe Val Glu Thr Ile Ile His Glu Gly Gly Tyr Val  
 485 490 495  
 Trp Ile Ala Tyr Gly Met Ile Ile Thr Ile Val Pro Leu Leu Ala  
 500 505 510  
 Gly Phe Ile Gly Arg Tyr Ala Phe Lys Leu Asn Tyr Tyr Thr Leu Ile  
 515 520 525  
 Gly Val Leu Ala Gly Ser Thr Thr Asn Pro Pro Ala Leu Ala Tyr Ser  
 530 535 540  
 Asn Asp Leu Thr Ser Cys Asp Ala Pro Ala Val Gly Tyr Ala Thr Val  
 545 550 555 560  
 Tyr Pro Leu Thr Met Phe Leu Arg Val Leu Thr Ala Gln Leu Leu Ile  
 565 570 575  
 Leu Ser Leu Gly  
 580

&lt;210&gt; 5907

&lt;211&gt; 191

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5907

Met Met Lys Arg Ile Tyr Thr Arg Thr Gly Asp Arg Gly Thr Thr Gly  
 1 5 10 15  
 Ile His Gly Gly Glu Arg Val Glu Lys Asp Asp Ile Arg Ile Glu Ala  
 20 25 30  
 Asn Gly Thr Ile Asp Glu Leu Asn Ala Val Ile Gly Ile Ile Arg Ser  
 35 40 45  
 Leu Leu Pro Gln Glu His Asp Trp Gln Lys Leu Leu His His Leu Gln  
 50 55 60  
 Arg Glu Leu Met Val Val Met Ser His Val Ala Thr Pro Ser Ala Ile  
 65 70 75 80  
 Arg Asp Lys Asn Pro Asn Val Leu Ser Pro Gly Leu Ala Ala Phe Cys  
 85 90 95  
 Glu Gln Glu Met Asp Thr Met Thr Ala Gly Leu Lys Glu Asn Gly Tyr  
 100 105 110  
 Phe Leu Leu Pro Gly Gly Thr Pro Val Ser Ala Gln Leu Gln Phe Ala  
 115 120 125  
 Arg Thr Val Ala Arg Arg Ala Glu Arg Arg Leu Trp Thr Leu Asn Arg  
 130 135 140  
 Gln Asp Ala Val Pro Glu Asp Ile Leu Ser Phe Ile Asn Arg Leu Ser  
 145 150 155 160  
 Asp Leu Phe Phe Val Met Ala Arg Phe Asp Met Gln Gln Gln Asp Trp  
 165 170 175

Pro Glu Glu Arg Trp Gln Ala Phe Ala Tyr Lys Thr Lys Lys Lys  
 180 185 190

<210> 5908

<211> 260

<212> PRT

<213> B.fragilis

<400> 5908

Gln Asn Val Arg Arg Arg Met Cys Phe Arg Ser Val Met Arg Tyr Thr  
 1 5 10 15  
 Ser Phe Ser Thr Pro Ala Thr Val Pro Ile Leu Asp Gly Tyr Arg Ile  
 20 25 30  
 Ser Ala Asp His Ala Val Ser Ala Leu His Thr Asp Glu Thr Glu Val  
 35 40 45  
 Ala Arg Leu Tyr Arg Arg Leu Leu Arg Ser Thr Val Ser Ser Lys Arg  
 50 55 60  
 Thr Val Phe Leu Pro Gly Asn Ser Tyr Thr Asn Val Tyr Ile Val Met  
 65 70 75 80  
 Glu Val Ile Leu Ile Arg His Thr Ser Val Asp Val Pro Lys Gly Val  
 85 90 95  
 Cys Tyr Gly Gln Thr Asp Val Pro Leu Arg Asp Ser Phe Glu Glu Glu  
 100 105 110  
 Ala Ser Ile Thr Ala Gln Gln Leu Gln Asn Asp Val Phe Asp Ala Val  
 115 120 125  
 Phe Thr Ser Pro Leu Ser Arg Cys Thr Arg Leu Ala Asp His Cys Gly  
 130 135 140  
 Tyr Pro Asp Ala Ile Arg Asp Ala Arg Leu Lys Glu Leu Asn Phe Gly  
 145 150 155 160  
 Glu Trp Glu Met Gln Glu Phe Asp Lys Ile Cys Asp Pro Arg Leu Glu  
 165 170 175  
 Glu Trp Tyr Asn Asp Tyr Phe His Val Ala Ala Thr Gly Gly Glu Ser  
 180 185 190  
 Phe Met Met Gln Leu Gln Arg Val Ser Glu Phe Leu Asn Glu Val Ser  
 195 200 205  
 Gly Lys Glu Tyr Lys Arg Ile Ala Val Phe Ala His Gly Gly Val Leu  
 210 215 220  
 Ile Cys Ala Gln Ile Tyr Ala Gly Ile Leu Arg Met Glu Asp Ala Phe  
 225 230 235 240  
 Asn Ala Leu Thr Pro Tyr Gly Gly Val Val Arg Leu Gln Leu Asn Ser  
 245 250 255  
 Lys Thr Glu Glu  
 260

<210> 5909

<211> 325

<212> PRT

<213> B.fragilis

<400> 5909

Asp Arg Glu Ser Met Asp Gly Met Phe Phe Trp Tyr Ile Ser Leu Val  
 1 5 10 15  
 Tyr Phe Cys Arg Leu Phe Pro Leu Pro Leu Ala Trp Leu Phe Asp Arg  
 20 25 30  
 Trp Gln Gly Asp Pro Ser Trp Leu Pro His Pro Val Val Gly Phe Gly  
 35 40 45  
 Lys Leu Ile Ala Trp Gly Glu Lys Cys Leu Asn Ala Gly Arg Ala Arg  
 50 55 60  
 Val Trp Lys Gly Gly Met Met Ser Val Ala Leu Ile Val Gly Val Tyr

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65          70          75          80
Phe Phe Thr Phe Leu Phe Phe Lys Val Ile Gly Glu Tyr Ser Ile Ile
      85          90          95
Leu Thr Ala Leu Ile Gln Thr Leu Leu Ile Phe Cys Cys Leu Ala Gly
      100          105          110
Thr Thr Leu Ile Arg Glu Val Arg Met Val Phe Glu Ala Val Asp Arg
      115          120          125
Ser Leu Asp Glu Gly Arg Lys Gln Val Ala Arg Ile Val Gly Arg Asp
      130          135          140
Thr Ser Ala Leu Ser Ala Gln Glu Val Arg Thr Ala Ala Leu Glu Thr
      145          150          155          160
Leu Ala Glu Asn Leu Ser Asp Gly Val Ile Ala Pro Leu Phe Trp Tyr
      165          170          175
Ala Val Leu Gly Val Pro Gly Met Met Ala Tyr Lys Met Val Asn Thr
      180          185          190
Leu Asp Ser Met Ile Gly Tyr Arg Asn Glu Arg Tyr Arg Gln Phe Gly
      195          200          205
Cys Ile Ala Ala Arg Ile Asp Asp Val Ala Asn Tyr Ile Leu Ala Arg
      210          215          220
Leu Thr Ala Leu Leu Met Ile Leu Val Thr Glu Arg Phe Ser Leu Leu
      225          230          235          240
Arg Phe Val Gly Lys Tyr Gly Ser Arg His Ala Ser Pro Asn Ser Gly
      245          250          255
Ile Pro Glu Ala Ala Leu Ala Gly Ile Leu Asn Cys Arg Phe Gly Gly
      260          265          270
Pro His Tyr Tyr Phe Gly Glu Glu Val Trp Lys Pro Phe Ile Gly Asn
      275          280          285
Asn Glu Arg Ala Leu Thr Thr Glu Asp Met Lys Lys Ala Val Cys Val
      290          295          300
Asn Arg Gln Ala Glu Val Leu Met Val Val Leu Val Trp Leu Thr Ile
      305          310          315          320
Leu Leu Ser Leu Ser
      325

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<210> 5910  
 <211> 132  
 <212> PRT  
 <213> B.fragilis

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<400> 5910
Phe Ile Ile Phe Val Phe Val Leu Lys Glu Thr Arg Cys Ile Met Lys
1          5          10          15
Glu Pro Glu Lys Tyr Lys Gln Pro Glu Glu Glu Thr Thr Arg Leu Ser
      20          25          30
Glu Pro Thr Val Ala Tyr Asn Ser Met Ala Tyr Leu Glu Leu Glu Ala
      35          40          45
Glu Lys Ala Glu Leu Ile Arg Thr Ile Ala Asn Ile Asp Ser Lys Glu
      50          55          60
Ile Ile Asp Lys Val Lys Gln Lys Leu His Asp Val Leu Gly Leu Asp
      65          70          75          80
Lys Asn Arg Glu Thr Glu Pro Glu Cys Lys Lys Tyr Ile Leu Ala Asn
      85          90          95
Ile Lys Glu Ala Phe Cys Glu Gln Glu Arg Val Arg Thr Gly Glu Ser
      100          105          110
Lys Ser Arg Pro Ala Glu Glu Leu Ala Glu Leu Ile Arg Glu Arg
      115          120          125
Glu Gly Asn Asp
      130

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<210> 5911  
 <211> 1084  
 <212> PRT  
 <213> B.fragilis

<400> 5911

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Ile Asn Leu Ile Asp Asn His Met Asn Lys Lys Leu Ile Leu Ser Ile
1      5      10      15
Phe Val Leu Ala Gly Ala Pro Val Leu Leu Ser Ala Ala Gly Glu Ala
      20      25      30
Arg Leu Leu Arg Phe Pro Ala Thr Asn Gly Asn Glu Ile Val Phe Ser
      35      40      45
Tyr Ala Gly Asp Leu Tyr Lys Val Pro Ala Ser Gly Gly Glu Ala Gln
      50      55      60
Arg Leu Thr Ser His Val Gly Tyr Glu Met Phe Pro Arg Phe Ser Pro
65      70      75      80
Asp Gly Lys Thr Ile Ala Phe Thr Gly Gln Tyr Asp Gly Asn Thr Glu
      85      90      95
Val Tyr Thr Met Pro Ala Thr Gly Gly Glu Pro Leu Arg Ile Thr Tyr
      100     105     110
Thr Ala Thr Asn Ser Arg Asp Asp Leu Gly Asp Arg Met Gly Pro Asn
      115     120     125
Asn Ile Val Met Thr Trp Thr Pro Asp Gly Gln Arg Ile Val Tyr Arg
      130     135     140
Asn Arg Ile Ser Asp Gly Phe Ser Gly Lys Leu Phe Thr Val Asp Lys
145      150     155     160
Glu Gly Gly Leu Ser Glu Val Ile Pro Leu Pro Glu Gly Gly Phe Cys
      165     170     175
Ser Tyr Ser Pro Asp Gly Lys Gln Leu Ala Tyr Asn Arg Val Met Arg
      180     185     190
Glu Phe Arg Thr Trp Lys Tyr Tyr Lys Gly Gly Met Ala Asp Asp Ile
      195     200     205
Trp Val Tyr Asn Pro Gly Asn Lys Thr Val Glu Asn Val Thr Asn Asn
      210     215     220
Val Ala Gln Asp Ile Phe Pro Met Trp Ile Gly Asp Glu Ile Phe Phe
225      230     235     240
Leu Ser Asp Arg Asp Arg Ile Met Asn Ile Phe Ala Tyr Asn Thr Lys
      245     250     255
Thr Lys Gln Thr Val Lys Val Thr Asn Phe Thr Glu Tyr Asp Val Lys
      260     265     270
Phe Pro Ser Val His Gly Asn Thr Ile Val Phe Glu Asn Gly Gly Tyr
      275     280     285
Ile Tyr Lys Met Asp Ala Ala Ala Arg Lys Ala Glu Lys Val Asn Ile
      290     295     300
Thr Leu Ala Ser Asp Asn Ile Tyr Ala Arg Thr Asp Leu Lys Glu Gly
305      310     315     320
Ala Asn Tyr Val Thr Ala Ala Ser Leu Ser Pro Asp Gly Ala Arg Met
      325     330     335
Val Val Thr Ser Arg Gly Glu Val Phe Asn Leu Pro Val Glu Lys Gly
      340     345     350
Val Thr Lys Asn Ile Thr Arg Ser Pro Gly Ala His Asp Arg Asp Ala
      355     360     365
Gln Trp Ser Pro Asp Gly Thr Gln Ile Ala Tyr Ile Ser Asp Ala Thr
      370     375     380
Gly Glu Thr Glu Leu Tyr Leu Gln Asn Ala Ala Gly Gly Glu Pro Met
385      390     395     400
Gln Phe Thr His Lys Asn Asp Thr Tyr Ile Arg Asp Phe Lys Trp Ser
      405     410     415
Pro Asp Ser Lys Lys Ile Val Tyr Met Asp Arg Lys Asn Arg Val Asn

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Gly Leu Asn Glu Phe Ala Arg Tyr Phe Tyr Pro Gln Leu Asp Lys Glu  
                   900                  905                  910  
 Gly Leu Ile Ile Asp Asp Arg Ala Asn Gly Gly Gly Asn Val Ser Pro  
                   915                  920                  925  
 Met Ile Leu Glu Arg Leu Ser Arg Glu Pro Tyr Arg Leu Thr Met Gly  
                   930                  935                  940  
 Arg Gly Thr Ser His Val Gly Thr Val Pro Asp Ala Val Gln Val Gly  
 945                  950                  955                  960  
 Pro Lys Val Cys Leu Ile Asn Lys Tyr Ser Ala Ser Asp Gly Asp Leu  
                   965                  970                  975  
 Phe Pro Trp Gly Phe Arg Ala Leu Gly Leu Gly Lys Leu Ile Gly Thr  
                   980                  985                  990  
 Arg Thr Trp Gly Gly Ile Val Gly Ile Ser Gly Ser Leu Pro Tyr Met  
                   995                  1000                  1005  
 Asp Gly Thr Asp Ile Arg Val Pro Phe Phe Thr Ser Tyr Asp Pro Lys  
 1010                  1015                  1020  
 Thr Gly Lys Trp Ile Ile Glu Asn His Gly Val Asp Pro Asp Ile Leu  
 1025                  1030                  1035                  1040  
 Ile Asp Asn Asp Pro Val Lys Glu Trp Asn Gly Glu Asp Gln Gln Leu  
                   1045                  1050                  1055  
 Asn Arg Ala Ile Glu Glu Val Met Lys Gln Leu Lys Asp Arg Lys Pro  
                   1060                  1065                  1070  
 Leu Pro Pro Val Pro Ala Pro Arg Asp Phe Ser Lys  
                   1075                  1080

<210> 5912  
 <211> 448  
 <212> PRT  
 <213> B.fragilis

<400> 5912  
 Lys Pro Thr Ile Met Glu Cys Arg Met Ile Ser Gln Phe Leu Ile Ala  
 1                  5                  10                  15  
 Ala Pro Ser Ser Gly Ser Gly Lys Thr Thr Val Ser Arg Gly Leu Met  
                   20                  25                  30  
 Ala Leu Leu Ile Lys Lys Gly Leu Lys Val Gln Pro Phe Lys Cys Gly  
                   35                  40                  45  
 Pro Asp Tyr Ile Asp Thr Lys Tyr His Thr Ala Val Cys Arg Arg Pro  
                   50                  55                  60  
 Ser Ile Asn Leu Asp Thr Phe Met Ala Ser Ala Gly His Val Lys Glu  
 65                  70                  75                  80  
 Leu Tyr Ala Arg Tyr Ala Thr Gly Ala Asp Ala Cys Ile Thr Glu Gly  
                   85                  90                  95  
 Met Met Gly Met Tyr Asp Gly Tyr Asp Arg Asp Arg Gly Ser Ser Ala  
                   100                  105                  110  
 Glu Val Ala Gly Leu Leu Asn Leu Pro Val Ile Leu Val Val Asp Ala  
                   115                  120                  125  
 Lys Ser Ala Ala Tyr Ser Val Ala Pro Leu Leu Ser Gly Phe Ile His  
                   130                  135                  140  
 Phe Arg Pro Glu Ile Arg Ile Ala Gly Val Ile Phe Asn Arg Val Gly  
 145                  150                  155                  160  
 Ser Pro Arg His Tyr Glu Met Leu Gln Glu Val Cys Thr Glu Leu Gly  
                   165                  170                  175  
 Ile Thr Cys Leu Gly Tyr Leu Pro Lys Gln Glu Ser Leu Val Gln Glu  
                   180                  185                  190  
 Ser Arg Tyr Leu Gly Leu Asp Phe Ser His Ser Lys Gly Thr Asp Ala  
                   195                  200                  205  
 Leu Glu Glu Leu Thr Gly Leu Met Glu Lys Tyr Ile Asp Tyr Asn Arg  
                   210                  215                  220



Leu Leu Glu Glu Thr Lys Leu Pro Ala Pro Ile Pro Pro Val Ser Asn  
 225 230 235 240  
 Ile Ser Leu Gln Glu Asp Leu Lys Ile Ser Val Ala Cys Asn Ser Glu  
 245 250 255  
 Ser Phe Ser Phe Ile Tyr Gln Glu His Leu Asp Val Leu Cys Arg Leu  
 260 265 270  
 Gly Thr Val Ile Leu Phe Asn Pro Glu Asp Asn Arg Pro Leu Pro Glu  
 275 280 285  
 Gly Thr Asp Leu Leu Tyr Leu Pro Gly Gly Tyr Pro Glu Lys His Tyr  
 290 295 300  
 Glu Lys Leu Arg Gln Ala Trp Gln Arg Met Gln Ser Ile Arg Asn Tyr  
 305 310 315 320  
 Ala Glu Ser Gly Gly Arg Val Leu Ala Glu Cys Gly Gly Met Ile Tyr  
 325 330 335  
 Leu Ser Lys Gly Ile Leu Leu Asp Arg Ser Glu His Ser Asp Ser Glu  
 340 345 350  
 Val Gly Leu Gln Ala Gly Val Leu Pro Phe Phe Ile Ser Asn Arg Lys  
 355 360 365  
 Ala Asp Arg Arg Leu Thr Leu Gly Tyr Arg Gln Phe Asp Tyr Asn Gly  
 370 375 380  
 Gln His Leu Arg Gly His Glu Phe His Tyr Thr Gln Phe Glu Pro Lys  
 385 390 395 400  
 Pro Glu Glu Ser Leu Glu Ser Val Thr Gln Val Tyr Asn Ala Lys Arg  
 405 410 415  
 Met Pro Val Ser Thr Pro Val Phe Arg Tyr Lys Asn Val Ile Ala Ser  
 420 425 430  
 Tyr Thr His Leu Tyr Trp Gly Glu Ile Asp Leu Leu Lys Leu Phe Glu  
 435 440 445

&lt;210&gt; 5913

&lt;211&gt; 821

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5913

Leu Phe Pro Phe Gln Asn Lys Ala Asn Met Ile Ile Ser Lys Asn Pro  
 1 5 10 15  
 Leu Gly Asp Ile Ala Lys Leu Asn Arg Ile Cys Ala Ser Ala Gln Ile  
 20 25 30  
 Gly Trp Trp Glu Val Asn Phe Thr Gly Lys Cys Phe Ile Ser Glu  
 35 40 45  
 Thr Leu Leu Lys Ser Leu Glu Val Ser Ser Val Trp Leu Asp Ile Asp  
 50 55 60  
 Glu Leu Met Ser Thr Val Arg Gln Asp Tyr Arg Lys Arg Ile Thr Asp  
 65 70 75 80  
 Glu Phe Thr Ser Ile Pro Arg Lys Gly Val Phe Glu Gln Thr Phe Pro  
 85 90 95  
 Val Thr Ser Gly Arg Gly Asn Val Phe Trp Ile His Cys Ala Leu Ser  
 100 105 110  
 Met Glu Glu Glu Asn Glu Glu Gly Gln Leu Ile Ala Thr Gly Tyr Gly  
 115 120 125  
 Gln Arg Ile Glu Ser Pro Glu Thr Gln Gly Tyr Gln Cys Ala Trp Asn  
 130 135 140  
 Gln Arg Ile Asn Asn Leu Tyr Cys Gln Asn Ser Ile Ala Asn Ser  
 145 150 155 160  
 Leu Leu Lys Leu Leu Ser Asn Asp Thr Gly Asp Glu Leu Phe Glu Glu  
 165 170 175  
 Met Leu Ala Asp Ile Leu Tyr Phe Phe Lys Gly Ala Arg Val Tyr Ile  
 180 185 190

Val	Arg	Tyr	Asn	Trp	Lys	Asn	Gly	Asn	Gln	Ser	Cys	Leu	Tyr	Glu	Val
	195						200					205			
Ala	Ala	Cys	Asn	Val	Ile	Thr	Leu	Lys	Glu	Lys	Leu	Gln	Asn	Ile	Cys
	210					215					220				
Ser	Glu	Asp	Ala	Pro	Trp	Phe	Tyr	Gln	Gln	Ile	His	Ala	Asn	Arg	Pro
	225				230					235					240
Val	Ile	Leu	Asn	Ser	Pro	Asp	Glu	Leu	Pro	Pro	Leu	Ala	Val	Arg	Asp
			245						250					255	
Arg	Glu	Val	Leu	Ala	Glu	Asn	Gly	Thr	Asn	Ser	Met	Met	Leu	Ala	Pro
			260					265					270		
Leu	Met	Arg	Glu	Glu	Gly	Val	Trp	Gly	Tyr	Met	Gly	Ile	Asp	Ile	Val
			275				280					285			
Asp	Gly	Tyr	Arg	Lys	Trp	Asn	Ser	Glu	Asp	Tyr	Gln	Trp	Phe	Ser	Ser
	290					295					300				
Leu	Ala	Asn	Ile	Ile	Ser	Ile	Cys	Met	Glu	Leu	Arg	Met	Ile	Lys	Glu
	305				310					315					320
Arg	Val	Met	His	Ser	Glu	Lys	Leu	Phe	His	Asp	Ile	Phe	Thr	Asn	Ile
			325						330					335	
Pro	Val	Gly	Leu	Glu	Leu	Tyr	Asn	Lys	Glu	Gly	Met	Leu	Leu	Asp	Cys
			340					345					350		
Asn	Asn	Arg	Asn	Leu	Glu	Ile	Phe	Gly	Val	Gly	Asp	Lys	Asn	Arg	Ile
		355					360					365			
Ile	Gly	Leu	Asn	Leu	Phe	Glu	Ser	Pro	Asn	Met	Thr	Arg	Asp	Ile	His
	370					375					380				
Glu	Ser	Leu	Arg	Ala	Gly	Arg	Pro	Gly	Thr	Phe	His	Leu	Lys	Tyr	Asp
	385				390					395					400
Phe	Asp	Glu	Glu	Arg	Arg	Leu	Phe	Gln	Ser	Glu	Arg	Arg	Gly	Val	Met
			405						410					415	
Asp	Leu	Asp	Ile	Arg	Ser	Leu	Met	Leu	Tyr	Asp	Ala	Glu	Asp	Asn	Leu
			420					425				430			
Ser	Asn	Tyr	Leu	Leu	Val	Asn	Ile	Asp	Asn	Thr	Glu	Arg	Asn	Asn	Ala
		435				440						445			
Leu	Ser	Lys	Val	His	Asp	Phe	Glu	Asn	Phe	Phe	Ser	Ile	Ile	Ser	Asp
	450					455					460				
Tyr	Ser	Lys	Val	Gly	Tyr	Ala	Lys	Ile	Asn	Leu	Leu	Asp	His	Thr	Gly
	465				470					475					480
Phe	Ala	Val	Arg	Gln	Trp	Tyr	Arg	Asn	Leu	Gly	Glu	Ser	His	Asp	Thr
			485						490					495	
Pro	Leu	Ala	Asp	Ile	Ile	Gly	Ile	Phe	Ser	His	Met	His	Pro	Asp	Asp
		500						505					510		
Arg	Lys	Ser	Val	Leu	Asp	Phe	Tyr	Glu	Lys	Ala	Lys	Ala	Gly	Thr	Glu
		515					520					525			
Arg	Phe	Phe	Asp	Gly	Asp	Leu	Arg	Ile	Arg	Pro	Ala	Asp	Gly	Ala	Asp
	530					535					540				
Arg	Trp	Asn	Trp	Ile	His	Lys	Ser	Ser	Met	Val	Thr	Ala	Tyr	Gln	Ser
	545				550					555					560
Pro	Asn	Pro	Arg	Leu	Glu	Leu	Val	Glu	Val	Asn	Tyr	Asp	Ile	Thr	Val
			565					570					575		
Gln	Lys	Glu	Thr	Glu	Ala	Glu	Leu	Arg	Ala	Ala	Arg	Asp	Lys	Ala	Glu
			580					585					590		
Glu	Ser	Asn	Arg	Leu	Lys	Ser	Ala	Phe	Leu	Ala	Asn	Ile	Ser	His	Glu
		595					600					605			
Ile	Arg	Thr	Pro	Leu	Asn	Ala	Ile	Val	Gly	Phe	Ser	Asp	Leu	Leu	Met
	610					615					620				
Thr	Val	Asp	Asp	Pro	Ala	Glu	Gln	Glu	Glu	Phe	Arg	Arg	Thr	Ile	Gln
	625				630					635					640
Lys	Asn	Asn	Thr	Leu	Leu	Leu	Gln	Leu	Phe	Ser	Asp	Ile	Ile	Asp	Leu
			645						650				655		
Ser	Lys	Ile	Asp	Ala	Gly	Ser	Phe	Glu	Tyr	Met	Pro	Lys	Pro	Val	Cys

660	665	670
Leu Tyr Gln Phe Cys Ala Met Met Val Gln Lys Met Arg Asn Lys Val		
675	680	685
Pro Glu Gly Val Glu Leu Gln Ile Asp Glu Asp Ser Pro Leu Asp Thr		
690	695	700
Trp Phe Ser Ala Asp Ser Gly Tyr Leu Asn Gln Val Val Thr Asn Phe		
705	710	715
Met Ser Asn Ala Ile Lys Phe Thr His Arg Gly Thr Ile Thr Val Gly		
725	730	735
Tyr Arg Ile Asp Ala Arg Gln Gln Leu Glu Met Phe Val Glu Asp Thr		
740	745	750
Gly Ile Gly Ile Ser Ile Glu Asn Gln Glu Ala Val Phe Asp Arg Phe		
755	760	765
Met Lys Val Asp Ser Phe Val Gln Gly Thr Gly Leu Gly Leu Pro Leu		
770	775	780
Cys Lys Ser Ile Ile Glu Lys Met Gly Gly His Ile Gly Val Ile Ser		
785	790	795
Glu Leu Gly Lys Gly Ser Arg Phe Trp Phe Thr Leu Pro Ala Phe Ser		
805	810	815
Cys Ile Pro Thr Arg		
820		

&lt;210&gt; 5914

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5914

Gln Thr Met Ile Glu Gly His Gly Asp Asp Ser Tyr Lys Tyr Arg His		
1	5	10
Pro Ile Arg Ser Asn Phe Ser Ser Asn Val Tyr Asn Lys Val Asn Leu		
20	25	30
Asp Gly Leu Arg Ala His Leu Cys Gly Arg Ile Ser Ala Ile Ser Ala		
35	40	45
Tyr Pro Glu Pro Glu Pro Tyr Thr Leu Glu Ala Arg Leu Ala Asp Arg		
50	55	60
His Ala Leu Pro Ala Ala Ser Val Cys Val Thr Asn Gly Ala Thr Glu		
65	70	75
Ala Ile Tyr Leu Ile Ala Gln Thr Phe Arg Gly Thr Asn Thr Ala Ile		
85	90	95
Leu Met Pro Thr Phe Ser Glu Tyr Ala Asp Ala Cys Arg Met His Gly		
100	105	110
His Lys Val Thr Ser Leu Tyr Thr Leu Asp Ala Val Pro Glu Asp Val		
115	120	125
His Met Val Trp Leu Cys Asn Pro Asn Asn Pro Thr Gly Glu Val Arg		
130	135	140
Asp Lys Lys Tyr Leu Thr Glu Leu Ile Ala Lys His Pro Arg Val Cys		
145	150	155
Phe Val Ile Asp Gln Ser Tyr Glu Tyr Phe Thr Leu Lys Glu Leu Phe		
165	170	175
Thr Ala Gln Glu Ala Ala Gly Phe Pro Asn Val Ile Leu Leu His Ser		
180	185	190
Met Thr Lys Arg Tyr Ala Ile Pro Gly Leu Arg Leu Gly Tyr Val Thr		
195	200	205
Ala His Pro Gly Leu Ile Gly Arg Leu Arg Thr Asn Arg Met Pro Trp		
210	215	220
Ser Val Asn Gln Leu Ala Ile Glu Ala Gly Leu Tyr Leu Leu Ser Glu		
225	230	235
Gly Ile Pro Ala Gly Leu Ser Met Lys Asp Tyr Leu Ala Glu Cys Ala		

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<210> 5915
<211> 103
<212> PRT
<213> B.fragilis
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<210> 5916
<211> 250
<212> PRT
<213> B.fragilis
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<400>	5916															
Asp	Leu	Pro	Met	Asn	Ile	Leu	Ala	Ala	Phe	Ile	Phe	Phe	Thr	Arg	Leu	
1				5					10					15		
Pro	Phe	Trp	Arg	Ile	Arg	Glu	Val	Pro	Ala	Glu	Cys	Phe	Lys	His	Val	
			20					25					30			
Val	Pro	Tyr	Trp	Pro	Leu	Ser	Gly	Trp	Leu	Thr	Gly	Gly	Ile	Met	Ala	
		35					40					45				
Gly	Val	Leu	Trp	Leu	Ser	Ala	Gln	Ile	Leu	Pro	Phe	Ser	Val	Ala	Val	
	50					55					60					
Leu	Leu	Ala	Leu	Ala	Ala	Arg	Leu	Leu	Ile	Thr	Gly	Ala	Leu	His	Glu	
65					70					75					80	
Asp	Gly	Leu	Ala	Asp	Phe	Phe	Asp	Gly	Phe	Gly	Gly	Gly	Thr	Asn	Arg	
				85					90					95		
Glu	Arg	Ile	Leu	Ser	Ile	Met	Lys	Asp	Ser	His	Ile	Gly	Ser	Tyr	Gly	
			100					105					110			
Val	Ile	Gly	Leu	Ile	Phe	Tyr	Phe	Leu	Leu	Leu	Trp	Ser	Leu	Leu	Met	
		115					120					125				
Ser	Leu	Pro	Leu	Ser	Phe	Ala	Cys	Ile	Thr	Leu	Ile	Ala	Gly	Asp	Thr	
	130					135					140					
Ile	Ser	Lys	Leu	Thr	Ser	Ser	Gln	Ile	Ile	Asn	Phe	Leu	Pro	Tyr	Ala	
145					150					155					160	
Arg	Lys	Glu	Glu	Glu	Ser	Lys	Ala	Lys	Val	Val	Tyr	Asn	Arg	Met	Ser	
				165					170					175		
Gly	Gly	Glu	Cys	Ala	Phe	Gly	Leu	Leu	Cys	Gly	Ile	Leu	Pro	Ser	Ala	
			180					185					190			

Leu Leu Leu Pro Tyr Arg Tyr Trp Met Ala Ile Val Phe Pro Leu Ile  
 195 200 205  
 Met Leu Tyr Leu Leu Cys Thr Leu Met Lys Arg Lys Leu Gln Gly Tyr  
 210 215 220  
 Thr Gly Asp Cys Cys Gly Ala Leu Phe Leu Leu Ser Glu Leu Ser Phe  
 225 230 235 240  
 Tyr Leu Gly Ile Val Ile Leu Met Phe Ile  
 245 250

<210> 5917  
 <211> 66  
 <212> PRT  
 <213> B.fragilis

<400> 5917  
 Tyr Phe Ile Phe Pro Phe Pro Asp Ala Lys Tyr Cys Ala Ile Ala Met  
 1 5 10 15  
 Gly Ile Ser Glu Thr Ile Phe Ile Phe Ala Trp Leu Tyr Lys Ile Lys  
 20 25 30  
 Ala Thr His Ala Val Val Ala Gln Leu Ala Glu Arg Arg Leu Pro Lys  
 35 40 45  
 Pro Gln Val Thr Ser Ser Thr Leu Ala Tyr Arg Ser Lys Val Tyr Leu  
 50 55 60  
 Leu Asn  
 65

<210> 5918  
 <211> 176  
 <212> PRT  
 <213> B.fragilis

<400> 5918  
 Leu Lys Ser Ser Thr Asn Arg Phe Ser Tyr Ile Ile Ile Phe Ser Ile  
 1 5 10 15  
 Gly Asn Thr Lys Ile Pro Ser Ala Pro Ser Ala Phe Ser Leu Pro Met  
 20 25 30  
 Ile Ser Gln Asn Arg Phe Ser Ser Thr Val Cys Thr Glu His Gln  
 35 40 45  
 Pro Ser Cys Ala Asn Gly Ile Thr Val Gly Leu Phe Ile Pro Gly Ser  
 50 55 60  
 Thr Ala Ile Ile Ser Ser Ser Leu Ser Leu Gly Ala Phe Ile Ser Thr  
 65 70 75 80  
 Tyr Phe Leu Ser Ser Ala Val Phe Thr Ala Ser Met Arg Lys Ser Asn  
 85 90 95  
 Ser Ser Asn Ile Ser Phe Phe Ser Leu Leu Ile Phe Leu Leu Pro Ile  
 100 105 110  
 Ser Lys Ala Ser Asp Leu Ile Thr Thr Ser Thr Ser Phe Arg Arg Leu  
 115 120 125  
 Leu Thr Arg Val Glu Pro Glu Leu Thr Ile Ser Lys Ile Ala Ser Ala  
 130 135 140  
 Asn Pro Met Pro Gly Ala Thr Ser Thr Glu Pro Val Met Thr Cys Thr  
 145 150 155 160  
 Ser Ala Phe Thr Pro Leu Leu Phe Ile Lys Ala Ser Lys Ile Pro Gly  
 165 170 175

<210> 5919  
 <211> 103  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 5919

```

Leu Ser Ser Pro Ile Ile Leu Val Met Val Asn Val Ile Arg Arg Met
1          5          10          15
Lys Ala Asn Thr Ser Ile Ile Glu Lys Glu Ser Ile Arg Phe Leu Ile
          20          25          30
Asn Leu Ser Gln Leu Phe Leu Gly Thr Ala Phe Ile Pro Gln Ile Glu
          35          40          45
Phe Asn Glu Leu Cys Ile Ser Ala Lys Ile Val Val Ala Pro Lys Ile
          50          55          60
Glu Ile Pro Lys Leu Thr Lys Ala Ala Asp Leu Glu Glu Ser Val Phe
65          70          75          80
Ser Ala Phe Ser Ile Ile Glu Arg Arg Ala Ser Val Thr Ser Gly Pro
          85          90          95
Thr Ile Gly Cys Ser Trp Thr
          100

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&lt;210&gt; 5920

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5920

```

Leu Arg Leu Leu Ser Ile Arg Phe Ser Ser Ala Asp Thr Cys Leu Val
1          5          10          15
Ala Leu Leu Ser Ala Ala Tyr Val Val Thr Glu Tyr Lys Val Thr Ala
          20          25          30
Ile Thr Ile Ser Ala Ile Leu Lys Asp Leu Pro Thr Val Asn Val Val
          35          40          45
Phe Pro Met Phe Val Leu Cys Leu Phe Met Met His Val Val Gln Ser
          50          55          60

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&lt;210&gt; 5921

&lt;211&gt; 434

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5921

```

Thr Leu Lys Leu Lys Ile Met Lys Leu Ile Lys Tyr Pro Asp Arg Ser
1          5          10          15
Gln Trp Asn Glu Ile Leu Lys Arg Pro Val Leu Glu Thr Glu Asn Leu
          20          25          30
Phe Asp Thr Val Arg Asn Ile Ile Asn Arg Val Arg Ala Gly Gly Asp
          35          40          45
Trp Val Val Met Glu Tyr Glu Ala Val Phe Asp Lys Ala Glu Leu Thr
          50          55          60
Ser Leu Ala Val Thr Ser Ala Glu Ile Glu Glu Ala Glu Lys Glu Val
65          70          75          80
Pro Ile Glu Leu Lys Ala Ala Ile Tyr Leu Ala Lys Arg Asn Ile Glu
          85          90          95
Thr Phe His Ser Ala Gln Arg Phe Glu Gly Lys Lys Val Asp Thr Met
          100          105          110
Glu Gly Val Thr Cys Trp Gln Lys Ala Val Ala Ile Glu Lys Val Gly
          115          120          125
Leu Tyr Ile Pro Gly Gly Thr Ala Pro Leu Phe Ser Thr Val Leu Met
          130          135          140
Leu Ala Ile Pro Ala Lys Ile Ala Gly Cys Lys Glu Ile Val Leu Cys
145          150          155          160
Thr Pro Pro Asp Lys Asn Gly Lys Val His Pro Ala Ile Leu Phe Ala

```



<210> 5923  
 <211> 68  
 <212> PRT  
 <213> B.fragilis

<400> 5923

Cys	Ile	Ser	Thr	Ser	Phe	Lys	Phe	Ile	Thr	Asp	Gln	Phe	Phe	Ser	Glu
1				5					10					15	
Glu	Thr	Lys	Asn	Gln	Ser	Asn	Ser	Ser	Thr	Lys	Gln	Arg	Leu	Ser	Lys
			20					25					30		
Met	Ser	Ser	Pro	His	Tyr	Asn	Leu	Thr	Lys	Pro	Gln	Ile	Leu	Phe	Phe
		35					40					45			
Ser	Phe	His	Lys	Lys	Val	Ile	Lys	Pro	Asp	Leu	Gln	Lys	Gln	Ile	Lys
	50					55					60				
Arg	Leu	Pro	Leu												
65															

<210> 5924  
 <211> 636  
 <212> PRT  
 <213> B.fragilis

<400> 5924

Leu	Cys	Thr	Thr	Cys	Ile	Ile	Asn	Lys	His	Lys	Thr	Asn	Ile	Gly	Lys
1				5					10					15	
Thr	Thr	Phe	Thr	Val	Gly	Arg	Ser	Phe	Asn	Ile	Ala	Leu	Ile	Val	Ile
			20					25					30		
Ala	Val	Thr	Leu	Tyr	Ser	Val	Thr	Thr	Tyr	Ala	Ala	Asp	Asn	Lys	Ala
		35				40						45			
Thr	Arg	His	Val	Ser	Ala	Leu	Leu	Asn	Leu	Ile	Asp	Asn	Ser	Leu	Asn
	50					55				60					
Tyr	Ser	Lys	Glu	Ala	Pro	Asn	Asp	Ser	Ile	Ile	Gln	Trp	Gly	Asn	Glu
65				70					75					80	
Leu	Ala	Pro	Leu	Leu	Lys	Lys	Gln	Lys	Glu	Tyr	Lys	Thr	Leu	Phe	Gln
			85					90						95	
Leu	Lys	Gln	Leu	Ile	Val	Thr	Ala	Tyr	Ala	Ser	Arg	Gly	Asp	Met	Asn
		100					105						110		
Met	Ala	Ile	Asp	His	Ala	Arg	Arg	Met	Tyr	Lys	Glu	Ala	Lys	Glu	Leu
	115					120						125			
Asn	Ser	Pro	Ile	Gly	Ile	Ala	Leu	Ser	Ser	Arg	Ala	Ile	Gly	Asp	Ala
	130				135						140				
Tyr	Leu	Asn	Ala	Asn	Met	Gln	Gln	Pro	Ala	Ile	Glu	Ser	Tyr	Lys	Glu
145				150					155						160
Ala	Leu	Glu	Leu	Leu	Asp	Lys	Ile	Pro	Gly	Ser	Glu	Ile	Leu	Glu	Gln
			165					170						175	
Glu	Ile	Leu	Pro	Lys	Phe	Ile	Leu	Thr	Leu	Ile	Gln	Ala	Ser	His	Met
		180						185					190		
Asp	Glu	Val	Arg	Ile	Tyr	Leu	Gln	Lys	Phe	Glu	Asn	Leu	Tyr	Ala	Asp
	195					200					205				
Asn	Pro	Asn	Pro	Thr	Phe	His	Phe	Phe	Ile	Cys	Ala	Cys	Asn	Ala	Tyr
	210				215						220				
Tyr	Asn	Ile	Glu	Ser	Gly	Asp	Pro	Glu	Lys	Gly	Lys	Ala	Glu	Leu	Asp
225				230						235				240	
Lys	Ala	Arg	Lys	Ile	His	Glu	Gln	Leu	Asn	Tyr	Leu	Tyr	Leu	Arg	Ser
			245					250						255	
Ile	Tyr	Asn	Tyr	Ile	Leu	Ala	Gln	Tyr	Tyr	Gln	Ala	Val	Gly	Lys	Tyr
		260						265					270		
Glu	Leu	Ala	Leu	Gln	Gln	Tyr	Glu	Cys	Leu	Thr	Lys	Val	Pro	Lys	Ala
	275						280						285		



Pro Ala Pro Asn Lys His Ile Gly Leu Gln Leu Glu Cys Ala Gln Leu  
 290 295 300  
 Leu Thr Gln Met Gly Arg Thr Glu Glu Ala Tyr Arg Ile Tyr Gln Lys  
 305 310 315 320  
 Ala Asn Arg Gln Lys Asp Ser Leu Asn Ala Leu Ser Tyr Ala Arg Gln  
 325 330 335  
 Ile Asn Asp Leu Arg Gly Met Tyr Gln Ile Asp Arg Met Glu Ile Arg  
 340 345 350  
 Asn Gln Ile Gln Arg Asn Gln Ile Ile Leu Trp Ile Ile Ile Val Ser  
 355 360 365  
 Ile Phe Ile Leu Met Leu Val Leu Leu Leu Ile Val Arg Ile Arg Gln  
 370 375 380  
 Glu Ser Asn Arg Leu Leu Arg Ser Lys Glu Glu Leu Glu Ile Ala Arg  
 385 390 395 400  
 Lys Tyr Ala Glu Asn Ser Ile Arg Thr Lys Ser Leu Phe Leu Ser Asn  
 405 410 415  
 Met Ser His Glu Ile Arg Thr Pro Leu Asn Ala Leu Ser Gly Phe Ser  
 420 425 430  
 Ser Ile Leu Thr Asp Glu Ser Ile Asp Asn Asp Thr Arg Tyr Gln Cys  
 435 440 445  
 Asn Asp Ile Ile Gln Gln Asn Ser Glu Leu Leu Leu Lys Leu Ile Asn  
 450 455 460  
 Asp Val Ile Asp Leu Ser Asn Leu Asp Pro Gly Lys Leu Thr Phe Asn  
 465 470 475 480  
 Phe Lys Glu Cys Asp Ala Val Asn Ile Cys Arg Asn Val Ile Asn Thr  
 485 490 495  
 Val Gln Lys Val Lys Gln Thr Gln Ala Gly Val Ser Phe Val Thr Ser  
 500 505 510  
 Leu Asp Arg Leu Thr Leu Arg Thr Asp Glu Ala Arg Leu Gln Gln Val  
 515 520 525  
 Leu Ile Asn Leu Leu Ile Asn Ala Thr Lys Phe Thr Thr Glu Gly Ser  
 530 535 540  
 Ile Thr Leu Thr Leu Glu Lys Glu Ser Glu Thr Ile Ala Leu Phe Thr  
 545 550 555 560  
 Val Thr Asp Thr Gly Cys Gly Ile Leu Arg Glu Lys Gln Asp Gln Ile  
 565 570 575  
 Phe Asn Arg Phe Glu Lys Leu Asn Glu Gly Ala Gln Gly Thr Gly Leu  
 580 585 590  
 Gly Leu Ser Ile Cys Arg Leu Ile Glu Gln Ile Gly Gly Arg Ile  
 595 600 605  
 Trp Ile Asp Pro Asp Tyr Thr Glu Gly Ala Arg Phe Arg Phe Thr His  
 610 615 620  
 Pro Val Arg Pro Ala Lys Gly Lys Glu Ala Glu Arg  
 625 630 635

&lt;210&gt; 5925

&lt;211&gt; 389

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5925

Glu Cys Gln Thr Asp Trp Ser Thr Glu Lys Ile Ser Ile Gly Lys Met  
 1 5 10 15  
 Lys Lys Lys Val Leu Phe Ile Asp Arg Asp Gly Thr Leu Val Ile Glu  
 20 25 30  
 Pro Pro Val Asp Tyr Gln Leu Asp Ser Leu Glu Lys Leu Glu Phe Tyr  
 35 40 45  
 Pro Lys Val Phe Arg Asn Leu Gly Phe Ile Arg Ser Lys Leu Asp Phe  
 50 55 60

Glu Phe Val Met Val Thr Asn Gln Asp Gly Leu Gly Thr Ser Ser Phe  
 65 70 75 80  
 Pro Glu Glu Thr Phe Trp Pro Ala His Asn Leu Met Leu Lys Thr Leu  
 85 90 95  
 Ala Gly Glu Gly Ile Thr Phe Asp Asp Ile Leu Ile Asp Arg Ser Met  
 100 105 110  
 Pro Glu Asp Cys Ala Ser Thr Arg Lys Pro Arg Thr Gly Met Leu Thr  
 115 120 125  
 Lys Tyr Ile Ser Asn Pro Glu Tyr Asp Leu Glu Gly Ser Phe Val Ile  
 130 135 140  
 Gly Asp Arg Pro Thr Asp Val Glu Leu Ala Lys Asn Ile Gly Cys Arg  
 145 150 155 160  
 Ala Ile Tyr Leu Gln Glu Ser Ile Asp Leu Leu Lys Glu Lys Gly Leu  
 165 170 175  
 Glu Thr Tyr Cys Ala Leu Ala Thr Thr Asp Trp Asp Arg Val Ala Glu  
 180 185 190  
 Phe Leu Phe Ala Gly Glu Arg Lys Ala Glu Ile Arg Arg Thr Thr Lys  
 195 200 205  
 Glu Thr Asp Ile Leu Val Ala Leu Asn Leu Asp Gly Lys Gly Thr Cys  
 210 215 220  
 Asp Ile Ser Thr Gly Leu Gly Phe Phe Asp His Met Leu Glu Gln Ile  
 225 230 235 240  
 Gly Lys His Ser Gly Met Asp Leu Thr Ile Arg Val Lys Gly Asp Leu  
 245 250 255  
 Glu Val Asp Glu His His Thr Ile Glu Asp Thr Ala Ile Ala Leu Gly  
 260 265 270  
 Glu Cys Ile Tyr Gln Ala Leu Gly Ser Lys Arg Gly Ile Glu Arg Tyr  
 275 280 285  
 Gly Tyr Ala Leu Pro Met Asp Asp Cys Leu Cys Arg Val Cys Leu Asp  
 290 295 300  
 Phe Gly Gly Arg Pro Trp Leu Val Trp Asp Ala Glu Phe Lys Arg Glu  
 305 310 315 320  
 Lys Ile Gly Glu Met Pro Thr Glu Met Phe Leu His Phe Phe Lys Ser  
 325 330 335  
 Leu Ser Asp Ala Ala Lys Met Asn Leu Asn Ile Lys Ala Glu Gly Gln  
 340 345 350  
 Asn Glu His His Lys Ile Glu Gly Ile Phe Lys Ala Leu Ala Arg Ala  
 355 360 365  
 Leu Lys Met Ala Leu Lys Lys Asp Ile Tyr His Phe Glu Met Pro Ser  
 370 375 380  
 Ser Lys Gly Val Leu  
 385

&lt;210&gt; 5926

&lt;211&gt; 938

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5926

Lys Lys Lys Thr Thr Val Val Ile Trp Thr Gly Cys Leu Asn Asp Asp  
 1 5 10 15  
 Arg Phe Val Pro Leu Ala Met Lys Lys Thr Ile Gln Gln Leu Val Leu  
 20 25 30  
 Glu Arg Ile Leu Ile Leu Asp Gly Ala Met Gly Thr Met Ile Gln Gln  
 35 40 45  
 Tyr Asn Leu Arg Glu Glu Asp Phe Arg Asn Glu Arg Phe Ala His Ile  
 50 55 60  
 Pro Gly Gln Leu Lys Gly Asn Asn Asp Leu Leu Cys Leu Thr Arg Pro  
 65 70 75 80

Asp Val Ile Arg Asp Ile His Arg Lys Tyr Leu Glu Ala Gly Ala Asp  
 85 90 95  
 Ile Ile Glu Thr Asn Thr Phe Ser Ser Thr Thr Ile Ser Met Ala Asp  
 100 105 110  
 Tyr His Val Gln Glu Tyr Val Arg Glu Met Asn Gln Ala Ala Val Lys  
 115 120 125  
 Leu Ala Arg Glu Val Ala Asp Glu Tyr Thr Ala Leu Asn Pro Asp Lys  
 130 135 140  
 Pro Arg Phe Val Ala Gly Ser Val Gly Pro Thr Asn Lys Thr Cys Ser  
 145 150 155 160  
 Met Ser Pro Asp Val Asn Asn Pro Ala Tyr Arg Ala Val Thr Tyr Asp  
 165 170 175  
 Glu Met Ala Asp Ala Tyr Gln Gln Gln Met Glu Ala Met Leu Glu Ser  
 180 185 190  
 Gly Val Asp Ala Leu Leu Ile Glu Thr Ile Phe Asp Thr Leu Asn Ala  
 195 200 205  
 Lys Ala Ala Ile Leu Ala Ala Glu Arg Ala Met Lys Ala Thr Gly Val  
 210 215 220  
 Lys Val Pro Val Met Leu Ser Val Thr Val Ser Asp Thr Gly Gly Arg  
 225 230 235 240  
 Thr Leu Ser Gly Gln Thr Leu Glu Ala Phe Leu Ala Ser Val Gln His  
 245 250 255  
 Ala Asp Ile Phe Ser Val Gly Leu Asn Cys Ser Phe Gly Ala Arg Gln  
 260 265 270  
 Leu Lys Pro Phe Leu Glu Gln Leu Ala Ala Arg Ala Pro Tyr Tyr Ile  
 275 280 285  
 Ser Ala Tyr Pro Asn Ala Gly Leu Pro Asn Ser Leu Gly Lys Tyr Asp  
 290 295 300  
 Gln Thr Pro Ala Asp Met Ala His Glu Val Lys Glu Tyr Val His Glu  
 305 310 315 320  
 Gly Leu Ile Asn Ile Ile Gly Gly Cys Cys Gly Thr Thr Asp Ala Tyr  
 325 330 335  
 Ile Ala Glu Tyr Pro Ala Leu Ile Ala Gly Ala Lys Pro His Ile Pro  
 340 345 350  
 Val Cys Lys Pro Asp Cys Met Trp Leu Ser Gly Leu Glu Leu Leu Glu  
 355 360 365  
 Val Lys Pro Glu Ile Asn Phe Val Asn Val Gly Glu Arg Cys Asn Val  
 370 375 380  
 Ala Gly Ser Arg Lys Phe Leu Arg Leu Ile Asn Glu Lys Lys Tyr Asp  
 385 390 395 400  
 Glu Ala Leu Ser Ile Ala Arg Lys Gln Val Glu Asp Gly Ala Leu Ile  
 405 410 415  
 Ile Asp Val Asn Met Asp Asp Gly Leu Leu Asp Ala Lys Glu Glu Met  
 420 425 430  
 Thr Thr Phe Leu Asn Leu Val Ala Ser Glu Pro Glu Ile Ala Arg Val  
 435 440 445  
 Pro Val Met Ile Asp Ser Ser Lys Trp Glu Val Ile Glu Ala Gly Leu  
 450 455 460  
 Lys Cys Leu Gln Gly Lys Ser Ile Val Asn Ser Ile Ser Leu Lys Glu  
 465 470 475 480  
 Gly Glu Glu Lys Phe Leu Glu His Ala Arg Thr Val Arg Gln Tyr Gly  
 485 490 495  
 Ala Ala Val Val Val Met Ala Phe Asp Glu Lys Gly Gln Ala Asp Thr  
 500 505 510  
 Ala Thr Arg Lys Ile Glu Val Cys Glu Arg Ala Tyr His Leu Leu Val  
 515 520 525  
 Asp Lys Ile Gly Phe Asn Pro His Asp Ile Ile Phe Asp Pro Asn Val  
 530 535 540  
 Leu Ala Val Ala Thr Gly Ile Glu Glu His Asn Asn Tyr Ala Val Asp

```

545          550          555          560
Phe Ile Glu Ala Thr Ala Trp Ile Lys Lys Asn Leu Pro Gly Ala His
          565          570          575
Ile Ser Gly Gly Val Ser Asn Leu Ser Phe Ser Phe Arg Gly Asn Asn
          580          585          590
Tyr Ile Arg Glu Ala Met His Ala Val Phe Leu Tyr His Ala Ile Gln
          595          600          605
Lys Gly Met Asp Met Gly Ile Val Asn Pro Gly Thr Ser Val Leu Tyr
          610          615          620
Thr Asp Ile Pro Ala Asp Val Leu Glu Arg Ile Glu Asp Val Val Leu
625          630          635          640
Asn Arg Arg Ser Asp Ala Ala Glu Arg Leu Ile Glu Leu Ala Asp Arg
          645          650          655
Leu Lys Glu Ala Ser Ala Gly Asn Thr Ser Ala Gly Gln Pro Val Lys
          660          665          670
His Asp Ala Trp Arg Asp Gly Thr Val Glu Glu Arg Leu Gln Tyr Ala
          675          680          685
Leu Val Lys Gly Ile Gly Asp Phe Leu Glu Glu Asp Leu Ala Glu Ala
690          695          700
Leu Pro Lys Tyr Asp Lys Ala Val Asp Val Ile Glu Gly Pro Leu Met
705          710          715          720
Asn Gly Met Asn His Val Gly Glu Leu Phe Gly Ala Gly Lys Met Phe
          725          730          735
Leu Pro Gln Val Val Lys Thr Ala Arg Thr Met Lys Lys Ala Val Ala
          740          745          750
Ile Leu Gln Pro Ile Ile Glu Ser Glu Lys Val Glu Gly Thr Ala Ser
          755          760          765
Ala Gly Lys Val Leu Leu Ala Thr Val Lys Gly Asp Val His Asp Ile
770          775          780
Gly Lys Asn Ile Val Ser Val Val Met Ala Cys Asn Gly Tyr Asp Ile
785          790          795          800
Ile Asp Leu Gly Val Met Val Pro Ala Glu Ser Ile Val Gln Lys Ala
          805          810          815
Ile Glu Glu Lys Val Asp Met Ile Gly Leu Ser Gly Leu Ile Thr Pro
          820          825          830
Ser Leu Glu Glu Met Val His Val Ala Met Glu Leu Glu Lys Ala Gly
835          840          845
Leu Asp Ile Pro Leu Leu Ile Gly Gly Ala Thr Thr Ser Lys Leu His
850          855          860
Thr Ala Leu Lys Ile Ala Pro Val Tyr His Ala Pro Val Val His Leu
865          870          875          880
Lys Asp Ala Ser Gln Asn Ala Gly Val Ala Ala Arg Leu Met Ser Pro
          885          890          895
Lys Ser Lys Glu Glu Leu Ala Lys Glu Leu Ser Gly Glu Tyr Glu Ala
          900          905          910
Leu Arg Asp Lys Ser Gly Met Met Lys Arg Glu Thr Val Ser Leu Lys
915          920          925
Glu Ala Gln Glu Asn Arg Leu Lys Leu Phe
930          935

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&lt;210&gt; 5927

&lt;211&gt; 788

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5927

```

Ile Lys Trp Thr Ser Phe Ala Val Ile Ile Val Thr Phe Tyr Ala Thr
1          5          10          15
Lys Val His Phe Tyr Glu Glu Lys Lys Ser Lys Arg Arg Gln Lys Pro

```



```

Phe Val Arg Asp Arg Val Pro Phe Asp His Leu Thr Pro Leu Phe Pro
500 505 510
Asp Glu Lys Phe Lys Leu Cys Lys Gly Gly Tyr Ser Asp Ser Met Ser
515 520 525
Ala Arg Val Val Asp Leu Phe Ser Pro Ile Gly Lys Gly Gln Arg Ala
530 535 540
Leu Ile Val Ala Gln Pro Lys Thr Gly Lys Thr Ile Leu Met Lys Glu
545 550 555 560
Ile Ala Asn Ala Ile Ala Ala Asn His Pro Glu Val Tyr Met Ile Met
565 570 575
Leu Leu Ile Asp Glu Arg Pro Glu Glu Val Thr Asp Met Ala Arg Ser
580 585 590
Val Asn Ala Glu Val Ile Ala Ser Thr Phe Asp Glu Pro Ala Glu Arg
595 600 605
His Val Lys Ile Ala Gly Ile Val Leu Glu Lys Ala Lys Arg Leu Val
610 615 620
Glu Cys Gly His Asp Val Val Ile Phe Leu Asp Ser Ile Thr Arg Leu
625 630 635 640
Ala Arg Ala Tyr Asn Thr Val Ser Pro Ala Ser Gly Lys Val Leu Ser
645 650 655
Gly Gly Val Asp Ala Asn Ala Leu His Lys Pro Lys Arg Phe Phe Gly
660 665 670
Ala Ala Arg Asn Ile Glu Asn Gly Gly Ser Leu Thr Ile Ile Ala Thr
675 680 685
Ala Leu Ile Asp Thr Gly Ser Lys Met Asp Glu Val Ile Phe Glu Glu
690 695 700
Phe Lys Gly Thr Gly Asn Met Glu Leu Gln Leu Asp Arg Asn Leu Ser
705 710 715 720
Asn Lys Arg Ile Phe Pro Ala Val Asn Ile Val Ala Ser Ser Thr Arg
725 730 735
Arg Asp Asp Leu Leu Leu Asp Lys Gln Thr Leu Asp Arg Met Trp Ile
740 745 750
Leu Arg Lys Tyr Leu Ser Asp Met Asn Pro Ile Glu Ala Met Asp Phe
755 760 765
Val Lys Asp Arg Leu Glu Lys Thr Lys Asp Asn Asp Glu Phe Leu Met
770 775 780
Ser Met Asn Ser
785

```

&lt;210&gt; 5928

&lt;211&gt; 380

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5928

```

Ser Asn Phe Ala Thr Pro Thr Gln Asp Leu Ala Asn Met Asn Lys Arg
1 5 10 15
Ile Phe Leu Val Ile Gly Val Ile Ile Leu Phe Ile Met Ile Ala Ile
20 25 30
Gly Ala Ser Thr Tyr Thr Ile Ile His Ser Leu Ile Gln Lys Glu Lys
35 40 45
Glu Ala Phe Lys Pro Gln Val Glu Asn Ile Leu Lys Glu Ala Val Ala
50 55 60
Asn Asn Thr Ile Gln Lys Cys Lys Asp Ile Pro Leu Asn Gly Phe Asn
65 70 75 80
Asn Ser Pro Asn Lys Ile Gly Thr Tyr Glu Thr Arg Thr Phe Cys Ser
85 90 95
Arg Asp Thr Leu Phe Thr Tyr Gln His Lys Ile Gln Asp Val Asp Ser
100 105 110

```

```

Glu Ile Leu Phe Ala Arg Gln Leu Gly Leu Leu Met Met Asp Ser Leu
    115          120          125
Gln Ser Ser Asp Ile Gln Ala Leu Ile Ile Lys Asp Leu Asn Lys Asn
    130          135          140
Asp Ile Lys Gly Tyr Ile Asn Thr Gly Ile Ile Val Ser Lys His Leu
    145          150          155          160
Gln Arg Glu Ile Trp Ser Gln Pro Ser Asn Ser Ile Pro Arg Asn Ala
    165          170          175
Glu Met Ile Thr Tyr Arg Leu Glu Asn Glu Ile Val Ser Val Asp Tyr
    180          185          190
Ile Met Tyr Ile Asp Tyr Ser Phe Ser Thr Leu Trp Lys Arg Met Pro
    195          200          205
Lys Thr Asn Ile Tyr Ile Asn Leu Val Val Glu Val Ile Leu Ile Tyr
    210          215          220
Thr Ile Thr Leu Phe Val Leu Tyr Tyr Arg Lys Gln Gln Lys Asn Arg
    225          230          235          240
Ser Val Ser Thr Val Asp Ile Thr Ser Asp Pro Asn Ile Ile Thr Asp
    245          250          255
Pro Ile Ser Val Asp Asn Thr Val Glu Thr Glu Lys Arg Thr Asn Ser
    260          265          270
Thr Ile Lys Glu Glu Leu Ser Phe Lys Asp Gln Phe Val Phe Glu Lys
    275          280          285
Asp Phe Val Leu Phe Asn Asp Arg Pro Ile Lys Met Pro Asn Gln Gln
    290          295          300
Gln Lys Ile Leu Leu Phe Phe Leu Asn Arg Pro Asn Tyr Arg Val Asn
    305          310          315          320
Lys His Glu Leu Lys Glu Glu Phe Trp Pro Lys Asn Ser Asp Pro Thr
    325          330          335
Asn Asn Met Thr Ser Ala Ile Asn Lys Leu Lys Lys Ile Leu Glu Glu
    340          345          350
Ile Asn Ser Lys Tyr Thr Ile Ile Thr Asp Lys Thr Asn Glu Glu Tyr
    355          360          365
Tyr Val Leu Ile Arg Asp Lys Ser Ala Glu Lys Ile
    370          375          380

```

&lt;210&gt; 5929

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5929

```

Met Glu Ile Leu Phe Pro Glu Leu Leu Tyr Ser Ile Ile Val Leu Asn
1          5          10          15
Lys Arg Leu Arg Tyr Ser Tyr Leu Asn Ile Ile Met Leu Thr Phe Thr
    20          25          30
Asp Asn Phe Glu Asn Asp Lys Glu Leu Ile Leu Arg Asp His Leu Ala
    35          40          45
Leu Glu Arg Thr Lys Leu Ala Asn Glu Arg Thr Leu Phe Ala Tyr Ile
    50          55          60
Arg Met Ala Leu Tyr Leu Leu Thr Val Gly Ile Gly Ile Phe Gln Ile
    65          70          75          80
Glu Ser Ile Ser Arg Leu Asp Gly Leu Ala Trp Gly Cys Ile Ile Ala
    85          90          95
Gly Ile Phe Leu Phe Phe Leu Gly Phe Val Arg Phe Glu Gln Met Arg
    100          105          110
Lys His Leu Lys Gln Tyr Thr Lys Thr Cys Arg Asp Thr Glu Asn Glu
    115          120          125
Ser Ser Arg Lys Lys
    130

```

<210> 5930  
 <211> 642  
 <212> PRT  
 <213> B.fragilis

<400> 5930

Lys	Met	Asn	Tyr	Gly	Phe	Val	Lys	Val	Ala	Ala	Ala	Val	Pro	Arg	Val	1	5	10	15
Lys	Val	Ala	Asp	Cys	Lys	Phe	Asn	Ser	Glu	Arg	Leu	Glu	Gly	Leu	Ile	20	25	30	
Thr	Ile	Ala	Glu	Gly	Lys	Gly	Val	Gln	Ile	Leu	Thr	Phe	Pro	Glu	Met	35	40	45	
Cys	Ile	Thr	Gly	Tyr	Thr	Cys	Gly	Asp	Leu	Phe	Ala	Gln	Gln	Leu	Leu	50	55	60	
Leu	Glu	Gln	Ala	Glu	Met	Ala	Leu	Ile	Gln	Ile	Leu	Asn	Ser	Thr	Arg	65	70	75	80
Gln	Leu	Asp	Ile	Ile	Ser	Ile	Leu	Gly	Met	Pro	Val	Val	Val	Asn	Ser	85	90	95	
Thr	Val	Ile	Asn	Ala	Ala	Val	Val	Ile	Gln	Lys	Gly	Lys	Ile	Leu	Gly	100	105	110	
Val	Val	Pro	Lys	Thr	Tyr	Leu	Pro	Asn	Tyr	Lys	Glu	Phe	Tyr	Glu	Gln	115	120	125	
Arg	Trp	Phe	Thr	Ser	Ala	Leu	Gln	Val	Ser	Glu	Asn	Ser	Val	Arg	Leu	130	135	140	
Cys	Gly	Gln	Ile	Val	Pro	Met	Gly	Asn	Asn	Leu	Leu	Phe	Glu	Thr	Ala	145	150	155	160
Glu	Thr	Thr	Phe	Gly	Ile	Glu	Ile	Cys	Glu	Asp	Leu	Trp	Ala	Thr	Val	165	170	175	
Pro	Pro	Ser	Ser	Ser	Leu	Ala	Leu	Gln	Gly	Ala	Glu	Ile	Ile	Phe	Asn	180	185	190	
Leu	Ser	Ala	Asp	Asp	Glu	Gly	Ile	Gly	Lys	His	Asn	Tyr	Leu	Cys	Ser	195	200	205	
Leu	Ile	Ser	Gln	Gln	Ser	Ala	Arg	Cys	Ile	Ser	Gly	Tyr	Val	Phe	Ser	210	215	220	
Ser	Ser	Gly	Phe	Gly	Glu	Ser	Thr	Thr	Asp	Val	Val	Phe	Ala	Gly	Asn	225	230	235	240
Gly	Leu	Ile	Tyr	Glu	Asn	Gly	Tyr	Leu	Leu	Ala	Arg	Ser	Glu	Arg	Phe	245	250	255	
Cys	Met	Glu	Glu	Gln	Leu	Ile	Ile	Asn	Glu	Ile	Asp	Val	Glu	Cys	Ile	260	265	270	
Arg	Ala	Glu	Arg	Arg	Val	Asn	Thr	Thr	Phe	Ala	Ala	Asn	Lys	Ala	Asn	275	280	285	
Cys	Pro	Gly	Lys	Glu	Ala	Val	Arg	Ile	Ser	Thr	Glu	Phe	Val	Asn	Ser	290	295	300	
Lys	Asp	Leu	Asn	Leu	Thr	Arg	Thr	Phe	Asn	Pro	His	Pro	Phe	Val	Pro	305	310	315	320
Gln	Gly	Asn	Glu	Leu	Asn	Ser	Arg	Cys	Glu	Glu	Ile	Phe	Ser	Ile	Gln	325	330	335	
Ile	Ala	Gly	Leu	Ala	Gln	Arg	Leu	Leu	His	Thr	Gly	Ala	Lys	Thr	Ala	340	345	350	
Val	Ile	Gly	Ile	Ser	Gly	Gly	Leu	Asp	Ser	Thr	Leu	Ala	Leu	Leu	Val	355	360	365	
Cys	Val	Lys	Thr	Phe	Asp	Lys	Leu	Gly	Leu	Ser	Arg	Lys	Asp	Ile	Leu	370	375	380	
Gly	Ile	Thr	Met	Pro	Gly	Phe	Gly	Thr	Thr	Asp	Arg	Thr	Tyr	His	Asn	385	390	395	400
Ala	Ile	Asp	Leu	Met	Asn	Ser	Leu	Gly	Val	Ser	Ile	Arg	Glu	Ile	Ser	405	410	415	



```

Ile Arg Glu Ala Cys Ile Gln His Phe Lys Asp Ile Gly His Asp Leu
      420      425      430
Asn Ile His Asp Val Thr Tyr Glu Asn Ser Gln Ala Arg Glu Arg Thr
      435      440      445
Gln Ile Leu Met Asp Ile Ala Asn Gln Thr Trp Gly Met Val Ile Gly
      450      455      460
Thr Gly Asp Leu Ser Glu Leu Ala Leu Gly Trp Ala Thr Tyr Asn Gly
465      470      475      480
Asp His Met Ser Met Tyr Gly Val Asn Ala Gly Ile Pro Lys Thr Leu
      485      490      495
Val Lys His Leu Val Gln Trp Val Ala Glu Asn Gly Met Asp Glu Thr
      500      505      510
Ser Lys Ala Thr Leu Leu Asp Ile Val Asp Thr Pro Ile Ser Pro Glu
      515      520      525
Leu Ile Pro Ala Asp Glu Asn Gly Glu Ile Lys Gln Lys Thr Glu Asp
      530      535      540
Leu Val Gly Pro Tyr Glu Leu His Asp Phe Phe Leu Tyr Tyr Phe Leu
545      550      555      560
Arg Phe Gly Phe Arg Pro Ser Lys Ile Tyr Phe Leu Ala Gln Thr Ala
      565      570      575
Phe Ser Gly Val Tyr Asp Asp Glu Thr Ile Lys Lys Trp Leu Gln Thr
      580      585      590
Phe Phe Arg Arg Phe Phe Asn Gln Phe Lys Arg Ser Cys Leu Pro
      595      600      605
Asp Gly Pro Lys Val Gly Ser Ile Ser Ile Ser Pro Arg Gly Asp Trp
      610      615      620
Arg Met Pro Ser Asp Ala Ser Ser Ala Ala Trp Leu Lys Glu Ile Ala
625      630      635      640
Glu Leu

```

&lt;210&gt; 5931

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5931

```

Pro Tyr Ile His Pro Pro Val Ile Arg Lys Arg Asp Leu Cys Val Thr
1      5      10      15
Lys Lys Thr Lys Val Met His Leu Arg Thr Tyr Tyr Pro Thr Val Val
      20      25      30
Leu Ser Asp Ile His Leu Gly Thr Gln His Ser Lys Thr Glu Glu Val
      35      40      45
Thr His Phe Leu Lys Ser Ile Asn Cys Asp Arg Leu Ile Leu Asn Gly
      50      55      60
Asp Ile Ile Asp Gly Trp His Leu Gln Lys Ser Gly Leu Gly Lys Trp
65      70      75      80
Lys Ala Lys His Thr Asp Phe Phe Lys Val Ile Met Lys Met Met Glu
      85      90      95
Asn Phe Gly Thr Gln Val Ile Tyr Val Arg Gly Asn His Asp Asp Phe
      100      105      110
Leu Asp Asn Leu Ala Pro Leu Asn Phe Tyr Asn Ile Arg Ile Val Lys
      115      120      125
Asp Cys Ile Tyr Glu Ser His Gly Arg Arg Tyr Tyr Val Thr His Gly
      130      135      140
Asp Ile Phe Asp Thr Val Thr Thr Gln Met Lys Trp Leu Ala Lys Leu
145      150      155      160
Gly Asp Thr Gly Tyr Thr Phe Leu Leu Trp Leu Asn Lys Val Tyr Asn
      165      170      175

```



35	40	45
Met Asp Glu Phe Ile Gln Val Phe Thr Asp Lys Tyr Lys Glu Val Ile		
50	55	60
Gly Gly Glu Leu Thr Ala Glu Thr Met Pro Leu Leu Thr Gly Glu Gln		
65	70	75
His Ser Leu Leu Ala Tyr Gln Ile Phe Arg Asp Glu Val Met Phe Gly		
85	90	95
Gly Phe Cys Gln Leu Ile Gln Asn Gly Tyr Gly Gly Tyr Ile Phe Asp		
100	105	110
Asn Pro Phe Ala Lys Val Met Arg Leu Trp Gly Ala Glu Asp Phe Ser		
115	120	125
Lys Leu Val Tyr Lys Ala Lys Lys Ile Tyr Asp Ala His Arg His Asp		
130	135	140
Leu Glu Lys Glu Arg Thr Glu Asp Glu Phe Met Ala Met Tyr Glu Gln		
145	150	155
Tyr Glu Ala Phe Asp Asp Leu Glu Glu Glu Tyr Leu Asp Ile Glu Glu		
165	170	175
Glu Val Thr Ala Leu Val Ala Ser Tyr Val Asp Asp His Leu Glu Leu		
180	185	190
Phe Ala Lys Ile Val Lys		
195		

&lt;210&gt; 5934

&lt;211&gt; 676

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5934

Pro Gly Leu His Arg Arg Cys Ala Ile Pro Val Tyr Thr Pro Arg Pro		
1	5	10
Ala Arg Lys Gly Lys Gly Gly Arg Lys Met Lys Arg Leu Ile Leu Ile		
20	25	30
Ile Ile Val Cys Cys Arg Ala Leu Gly Trp Cys His Ala Asn Thr Gln		
35	40	45
Thr Glu Thr Asp Ser Leu Tyr Arg Val Thr Gln Ser Leu Pro His Asp		
50	55	60
Ser Thr Arg Leu Glu Met Phe Lys Arg Leu Ala Gln Ile Glu Gln Leu		
65	70	75
Thr Pro Lys Cys Ile Thr Phe Ser Gly Leu Leu Arg Glu Glu Ala Thr		
85	90	95
Leu Gln Lys Asn Asp Arg Tyr Asn Ala Ile Ala Ala Tyr Leu His Thr		
100	105	110
Val Tyr Tyr Tyr Asn Gln Asn Asn Arg Asp Ser Val Lys Lys Trp Leu		
115	120	125
Asp Thr Met Glu Pro Tyr Ala Arg Lys Ser Gln Thr Trp Asp Leu Tyr		
130	135	140
Phe Asp Ala Leu Arg Phe Gln Ile Asp Leu Cys Thr Tyr Glu Glu Gln		
145	150	155
Tyr Glu Leu Ala Ile Asn Glu Ala Asn Gln Met Tyr Glu Arg Ala Gln		
165	170	175
Lys Val Asn Cys Ala Arg Gly Leu Ile Gly Ala Lys Gln Cys Leu Gly		
180	185	190
Asn Ala Tyr Ile Ser Thr Glu Arg Trp Asp Glu Gly Met Lys Ala Leu		
195	200	205
Glu Ala Ala Tyr Gln Leu Ser Gln Thr Asp Asn Ala Val Val Arg		
210	215	220
Ile Ser Ile Leu Cys Gln Leu Ile Ser Ile Thr Lys Asp Gln Lys Asn		
225	230	235
Asn Gln Leu Leu Ser Glu Tyr Leu Ala Lys Leu Lys Glu Thr Leu His		

```
<210> 5935
<211> 252
<212> PRT
```

&lt;213&gt; B.fragilis

&lt;400&gt; 5935

```

Ser Gly Trp Gln Pro Asp Thr Leu Ser Ser Val Asp Glu Lys Gly Glu
1      5      10      15
Val Lys Tyr His Lys Pro Asp Cys Ala Val Lys Gly Ser Met Asp Leu
      20      25      30
Asn Arg Lys Phe Leu Leu Arg Gln Tyr Leu Lys Asp Tyr Leu Ser Ala
      35      40      45
Val Val Gly Asp Lys Ile Glu Gly Ala Asn His Ser Asp Phe Ser Asp
      50      55      60
Ala Cys Leu Leu His Gln Ile Val Asp Thr Pro Lys Val Ser Tyr Gln
      65      70      75      80
Val Ala Tyr Pro Gln Ser Arg Lys Arg Tyr Arg Tyr Ile Arg Tyr Thr
      85      90      95
Ser Thr Pro Glu Lys Thr Leu Gln Leu Ala Glu Leu Gln Leu Phe Arg
      100     105     110
Lys Val Asp Asp Gln Glu Lys Ile Thr Ala Lys Val Ile Asp Gly Ser
      115     120     125
Asn Ala Phe Ile Ala Asp Asp Arg Phe Asp Arg Phe Lys Val Asn Asp
      130     135     140
Gly Asp Gly Leu Thr Phe Phe Leu Thr Lys Glu Lys Gly Ala Phe Val
      145     150     155     160
Thr Leu Asp Leu Gly Lys Pro Glu Lys Ile Glu Lys Ile Val Tyr Met
      165     170     175
Pro Arg Asn Asp Asp Asn Phe Ile Arg Leu Gly Asp Gln Tyr Glu Leu
      180     185     190
Phe Tyr Gln Asp Gly Phe Arg Gly Trp Ile Ser Leu Gly Arg Gln Val
      195     200     205
Ala Ser Glu Leu Thr Leu His Tyr Asp Asn Ile Pro Gln Asn Ser Val
      210     215     220
Leu Trp Leu Arg Asn Leu Ser Arg Gly Arg Glu Glu Thr Val Phe Arg
      225     230     235     240
Asn Glu Asp Gly Arg Gln Val Phe Phe Val Lys Trp
      245     250

```

&lt;210&gt; 5936

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5936

```

Lys Arg Ile Lys Met Glu Ile His Ser Glu Arg Lys Lys Arg Leu Ser
1      5      10      15
Leu Ser Leu Leu Phe Lys Ile Ile Lys Asp Thr Val Trp Gly Phe Ile
      20      25      30
Asp Asp Ser Val Met Arg Leu Ser Ala Ser Leu Ala Tyr Ala Thr Leu
      35      40      45
Phe Ser Ile Ile Pro Phe Leu Ser Leu Leu Val Thr Val Gly Val Phe
      50      55      60
Phe His Met Asp Leu Ala Asn Gln Leu Tyr Val Gln Leu Gln Pro Ile
      65      70      75      80
Val Gly Pro Glu Val Thr Glu Ala Leu Arg Ser Ile Ile Glu Asn Ala
      85      90      95
Glu Asn Thr Asp Ser Ser Arg Ser Ala Ala Phe Val Ser Leu Gly Ile
      100     105     110
Ser Ile Phe Gly Ala Thr Thr Ile Phe Ala Glu Ile Gln Ser Ser Leu
      115     120     125
Asn Ser Ile Trp Gly Ile Lys Ala Val Pro Lys Lys Ser Trp Leu Lys

```

130		135		140
Phe Ile Lys Asn Arg Ile Leu Ser Phe Ser Ile Ile Leu Val Phe Ala				
145		150		155
Phe Ile Leu Leu Ile Thr Phe Thr Ile Thr Asn Ile Ile Gly Glu Leu				160
	165		170	175
Ser Gln Lys Phe Ile Phe Lys Tyr Pro Glu Ala Ala Asp Ser Leu Val				
	180		185	190
Lys Val Val Gly Ile Ile Ile Asn Met Ser Val Thr Thr Ile Ile Phe				
	195		200	205
Thr Leu Ile Phe Lys Ile Leu Pro Asp Ala Lys Ile Lys Ser Lys Asp				
	210		215	220
Val Cys Ile Gly Ala Val Val Thr Thr Ile Leu Leu Leu Ile Gly Gln				
225		230		235
Trp Gly Ile Ser Phe Tyr Ile Gly Ile Ala Asn Val Gly Thr Val Tyr				240
	245		250	255
Gly Ala Ala Ala Phe Met Val Val Phe Val Thr Trp Ile Tyr Tyr Ser				
	260		265	270
Ser Ile Ile Ile Tyr Thr Gly Ala Glu Phe Thr Lys Ala Trp Ala Asn				
	275		280	285
Glu Met Gly Ser Lys Ile Phe Pro Asp Glu Tyr Ala Val Ala Thr Lys				
	290		295	300
Thr Ile Glu Ile His Glu Asp Lys Pro Ile Glu				
305		310		315

&lt;210&gt; 5937

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5937

Lys Thr Ser Asn Ile His Tyr Leu Ser Leu Leu Lys Tyr Leu Ala Leu				
1		5		10
Asp Tyr Lys Pro Arg Gln Ser Pro Ala Asp Ile Leu Ala Leu Val Met				
	20		25	30
Thr Thr Tyr His Pro His Ser Leu Leu Pro Lys Leu Leu Ser Pro Ile				
	35		40	45
Gly Leu Leu Lys Asp Pro Phe Val Leu Ser Leu Arg Met Ile Leu				
	50		55	60

&lt;210&gt; 5938

&lt;211&gt; 726

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5938

Phe Phe Tyr Lys Leu Met Asn Arg Leu Lys Leu Tyr Leu Leu Ala Leu				
1		5		10
Thr Ala Leu Ala Val Cys Ser Ala Lys Ala Asp Glu Gly Met Trp Leu				
	20		25	30
Leu Gln Leu Met Gln Gln Gln His Ser Ile Asp Met Met Lys Lys Gln				
	35		40	45
Gly Leu Lys Leu Glu Ala Gln Asp Leu Tyr Asn Pro Asn Gly Val Ser				
	50		55	60
Leu Lys Asp Ala Val Gly Ile Phe Gly Gly Gly Cys Thr Gly Glu Ile				
65		70		75
Ile Ser Pro Glu Gly Leu Ile Leu Thr Asn His His Cys Gly Tyr Ala				
	85		90	95
Ser Ile Gln Gln His Ser Ser Val Glu His Asp Tyr Leu Thr Asp Gly				
	100		105	110







## 2641

260	265	270
Thr Phe Ile Arg Asp Cys Phe Val Thr Asp Lys Tyr Ile Tyr Leu Leu		
275	280	285
Cys Pro Glu Gly Glu Gln Ser Ser Leu Val Ile Val Asp Trp Asp Gly		
290	295	300
Arg Pro Ile Ala Arg Tyr Arg Leu Asp Glu Lys Ile Phe Phe Phe Phe		
305	310	315
Ile Asp Pro Asp Arg Asn Leu Phe Cys Gly Ile Asn Ser Asn Asn Gly		
325	330	335
Gln Ser Phe Tyr Phe Leu Asp Leu Asp Ile Asn		
340	345	

&lt;210&gt; 5940

&lt;211&gt; 265

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5940

Ile Leu Ile Lys Cys Phe Ile Cys Ile Arg Ile Arg Cys Thr Phe Val	
1 5 10 15	
Val Glu Lys Val Val Tyr Pro Met Asn Lys Val Leu Pro Phe Leu Leu	
20 25 30	
Leu Leu Phe Val Phe Thr Ser Cys Ser Arg Lys Tyr Lys Ile Glu Gly	
35 40 45	
Ala Ser Ser Val Thr Ser Leu Asp Gly Lys Met Leu Phe Ile Lys Val	
50 55 60	
Leu Gln Asn Gly Glu Trp Leu Asn Ile Asp Ser Ala Glu Val Val His	
65 70 75 80	
Gly Leu Phe Ser Met Lys Gly Lys Val Asp Ser Val Val Met Ala Thr	
85 90 95	
Leu Tyr Ile Gly Asp Glu Ser Ile Met Pro Leu Val Ile Glu Lys Gly	
100 105 110	
Asn Ile Gln Val Ser Ile Thr Asn Thr Glu Leu Val Ala Lys Gly Thr	
115 120 125	
Ala Leu Asn Asn Ala Leu Tyr Ala Phe Ile Asp Lys Lys Asn Ser Leu	
130 135 140	
Asp Val Gln Ile Glu Glu Leu Gln Arg Lys Glu Ala Arg Met Val Met	
145 150 155 160	
Asp Gly Ala Asp Leu Ala Asp Ile His Glu Gln Leu Thr His Glu Gly	
165 170 175	
Asp Ser Leu Met Gln Asp Met Asn Gly Phe Ile Lys Lys Phe Ile Ser	
180 185 190	
Asp Asn Tyr Glu Thr Val Leu Gly Pro Ser Val Phe Met Met Leu Cys	
195 200 205	
Ser Thr Leu Pro Tyr Pro Val Met Thr Pro Gln Ile Glu Asp Ile Met	
210 215 220	
Lys Asp Ala Pro Tyr Ser Phe Lys Asn Asn Lys Leu Val Lys Asp Phe	
225 230 235 240	
Ile Thr Lys Ala Lys Ser Asn Met Glu Leu Ile Glu Glu His Gln Arg	
245 250 255	
Met Glu Gln Asn Ala Thr Leu Asn His	
260 265	

&lt;210&gt; 5941

&lt;211&gt; 385

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5941

Gly Lys Thr Asn Tyr Ile His Asn Asn Ser Ile Met Lys Phe Leu Phe  
 1 5 10 15  
 Ile Val Gln Gly Glu Gly Arg Gly His Phe Thr Gln Ala Ile Thr Leu  
 20 25 30  
 Glu Asp Met Leu Leu Arg Asn Gly His Gln Val Val Glu Val Leu Val  
 35 40 45  
 Gly Lys Ser Ser Ser Arg Thr Leu Pro Gly Phe Phe Asn Arg Ser Ile  
 50 55 60  
 Gln Ala Pro Val Lys Arg Phe Thr Ser Pro Asn Phe Leu Pro Thr Ala  
 65 70 75 80  
 Glu Asn Lys Arg Ala Asp Leu Lys Lys Ser Phe Ala Tyr Asn Leu Ile  
 85 90 95  
 His Val Pro Glu Tyr Phe Arg Ser Met Cys Tyr Ile Asn Gln Arg Ile  
 100 105 110  
 Lys Glu Thr Gly Ala Glu Val Val Ile Asn Phe Tyr Glu Leu Leu Thr  
 115 120 125  
 Gly Leu Thr Tyr Ala Leu Phe Arg Pro Ser Val Pro Tyr Val Cys Ile  
 130 135 140  
 Gly His Gln Tyr Leu Phe Leu His Asn His Phe Glu Phe Pro Arg Lys  
 145 150 155 160  
 Ser Val Ile Gln Leu Ser Met Leu Arg Phe Phe Thr Arg Met Thr Ser  
 165 170 175  
 Leu Arg Ala Ser Arg Arg Leu Ala Leu Ser Phe Arg Lys Met Glu Ser  
 180 185 190  
 Asp Arg Thr Glu Arg Ile Ser Val Val Pro Pro Leu Leu Arg Arg Glu  
 195 200 205  
 Val Thr Ala Met Gln Ser Ala Gln Gly Asn Tyr Ile His Gly Tyr Met  
 210 215 220  
 Val Asn Ser Gly Phe Ala Asp Ser Val Glu Ala Phe His Ala Leu His  
 225 230 235 240  
 Pro Glu Ile Pro Met His Phe Phe Trp Asp Lys Gln Asp Ala Asp Glu  
 245 250 255  
 Val Thr Lys Val Asp Ala Thr Leu Ser Phe His Gln Ile Asp Asp Val  
 260 265 270  
 Lys Phe Leu Asn Arg Met Ala Gly Cys Arg Ala Tyr Ala Ser Thr Ala  
 275 280 285  
 Gly Phe Glu Ser Ile Cys Glu Ala Met Tyr Leu Gly Lys Pro Val Leu  
 290 295 300  
 Met Val Pro Ala His Ile Glu Gln Asp Cys Asn Ala Tyr Asp Ala Arg  
 305 310 315 320  
 Gln Ala Gly Ala Gly Ile Ile Gly Glu Ser Phe Asp Leu Glu Ser Leu  
 325 330 335  
 Leu Arg Phe Ala Gly Thr Tyr Val Pro Asn Arg Glu Phe Ile Arg Trp  
 340 345 350  
 Val Arg Ser Cys Glu Arg Gln Ile Ile Gly Glu Leu Glu Arg Leu Ala  
 355 360 365  
 Asp Gln His Ser Ala Val Thr Val Pro Thr Leu Thr Asn Tyr Phe Pro  
 370 375 380  
 Ile  
 385

&lt;210&gt; 5942

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5942

Ser Gly Lys Asn Arg Lys Glu Thr Asp Gln Lys Lys Arg Asn Phe Phe  
 1 5 10 15

Tyr Leu Phe Cys Lys Ile Asp Cys Lys Ser Leu Asn Gly Leu Ile Leu  
 20 25 30  
 Leu Phe Phe Asp Arg Ile Leu Ala Ser Leu Ile Leu Phe Phe Leu Lys  
 35 40 45  
 Leu Cys Lys Val Asn Gln Cys Arg Lys Tyr Asp Tyr Asn Glu Val Glu  
 50 55 60  
 Thr Gly Ser Ser Trp Asp Asp Val Ala Asn Leu Gly Asn Tyr Asp Val  
 65 70 75 80  
 Gly His His Ile Leu Ser Asn Ser Arg Arg Glu Met Ser  
 85 90

&lt;210&gt; 5943

&lt;211&gt; 290

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5943

Ile Phe Met Lys Tyr Leu Tyr Val Leu Leu Ala Phe Ser Phe Leu Phe  
 1 5 10 15  
 Ser Cys Lys Asp Glu Asn Lys Lys His Ala Glu Ser Val Leu Arg Glu  
 20 25 30  
 Trp Met Asn Lys Glu Ile Val Phe Pro Asn Lys Met Tyr Phe Ser Ile  
 35 40 45  
 Gln Gly Lys Glu Asn Val Asp Phe Arg Ile Lys Asp Thr Glu Tyr Lys  
 50 55 60  
 Ile Val Ala Tyr Val Asp Ser Ala Gly Cys Thr Ser Cys Lys Leu His  
 65 70 75 80  
 Leu Ser Lys Trp Lys Glu Leu Ile His Tyr Val Asp Ser Ile Gln Ser  
 85 90 95  
 Glu Arg Val Gln Phe Leu Phe Phe Phe Phe Pro Lys Asn Gly Arg Asp  
 100 105 110  
 Ile Tyr His Thr Met Arg Met Asp Lys Phe Thr Tyr Pro Val Cys Val  
 115 120 125  
 Asp Thr Leu Asp Ser Phe Asn Lys Leu Asn His Phe Pro Asp Asp Val  
 130 135 140  
 Arg Phe Gln Thr Phe Leu Asn Lys Glu Asn Lys Val Val Ala Val  
 145 150 155 160  
 Gly Asn Pro Ile His Asn Pro Asn Ile Arg Asp Leu Phe Leu Asn Ile  
 165 170 175  
 Ile Ser Gly Gly Thr Ser Leu Pro Asp Glu Lys Arg Pro Gln Thr Glu  
 180 185 190  
 Val Lys Ile Glu Ala Leu Ser Met Asp Leu Gly Met Phe Asp Trp Lys  
 195 200 205  
 Lys Glu Gln Lys Cys Ile Phe Thr Val Glu Asn Thr Gly Lys Glu Leu  
 210 215 220  
 Leu Val Ile Asp Asp Val Asn Thr Ser Cys Gly Cys Thr Thr Val Glu  
 225 230 235 240  
 Tyr Ser Arg Glu Pro Val Gln Ser Gly Lys Thr Ile Asp Ile Thr Val  
 245 250 255  
 Val Tyr Lys Ala Glu Tyr Pro Glu His Phe Asn Lys Thr Ile Thr Val  
 260 265 270  
 Tyr Cys Asn Ser Pro Val Ser Pro Leu Gln Leu Lys Ile Lys Gly Asp  
 275 280 285  
 Ala Lys  
 290

&lt;210&gt; 5944

&lt;211&gt; 136

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5944

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Ser Val Met Asn Leu Asn Glu Val Asp Ile His Tyr Leu Ile Ala Ala
1          5          10          15
Ile Ser Val Ile Thr Ser Ala Leu Val Phe Tyr Thr Ile Gly Val Trp
          20          25          30
Gly Glu Arg Leu Gln Lys Arg Leu Lys Phe Trp His Leu Val Phe Phe
          35          40          45
Leu Leu Gly Leu Leu Ala Asp Ser Val Gly Thr Ala Leu Met Glu Asn
          50          55          60
Ile Ala Arg Leu Thr His Leu His Asp Glu Ile His Thr Val Thr Gly
65          70          75          80
Ile Ile Ala Ile Leu Leu Met Phe Ile His Ala Met Trp Ala Ile Trp
          85          90          95
Thr Tyr Val Lys Gly Ser Glu Arg Ala Lys Glu His Phe Asn Arg Phe
          100          105          110
Ser Ile Val Val Trp Cys Ile Trp Leu Ile Pro Tyr Cys Ile Gly Val
          115          120          125
Tyr Leu Gly Met Ser Leu His His
          130          135

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&lt;210&gt; 5945

&lt;211&gt; 355

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5945

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Asn Leu Met Lys Tyr Cys Leu Thr Phe Leu Phe Leu Leu Val Ile Phe
1          5          10          15
Thr Gly Cys Thr Ser Asp Leu Pro Lys Asp Arg Met Leu Tyr Ala Ser
          20          25          30
Phe Pro Lys Glu Glu Thr Leu His Ser Lys Val Ile Gln Leu Asp Ser
          35          40          45
Val Tyr Met Arg Tyr Pro Phe Arg Val His Val Ser Gly Asp Gln Ala
          50          55          60
Val Val Leu Asp Leu His Gly Thr Asp Val Tyr Cys His Leu Phe His
65          70          75          80
Tyr Pro Asp Phe His Tyr Leu Ser Ser Phe Gly Arg Arg Gly Asp Ser
          85          90          95
Pro Glu Glu Met Leu Ser Val Glu Thr Val Lys Cys Ile Asp Gly Ser
          100          105          110
Phe Trp Thr Leu Asp Ala Asn Lys Gly Glu Leu Thr Arg Phe Glu Phe
          115          120          125
Val Ser Asp Arg Asp Ser Leu Leu Arg Ala Glu Ala Ile Ser Phe Asp
          130          135          140
Lys Asp Ser Ile Leu Arg Ala Leu Asp Phe Val Ala Phe Asn Asp Thr
145          150          155          160
Thr Phe Leu Ile Pro Asp Tyr Ser Gly Asp Ser Arg Phe Cys Trp Val
          165          170          175
Asn Arg Gln Gly Lys Phe Leu Lys Lys Ser Gly Val Ile Pro Ser Leu
          180          185          190
Asn Glu Glu Ala Leu Lys Glu Ala Arg Pro Ala Leu Ala Gln Ala Trp
          195          200          205
Arg Ser Phe Ile Asp Tyr Asn Pro His Asn Gly Val Leu Val Ala Ala
210          215          220
Thr Gln Leu Gly Glu Val Leu Glu Ile Tyr Asn Leu Gln Asn Gly Phe
225          230          235          240
His Arg Val Cys Leu Gly Pro Lys Gly Glu Pro Glu Phe Lys Leu Ala

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245 250 255  
 Gly Gly Tyr Ala Ile Pro Asp Gly Ile Met Gly Phe Ser Asp Val Gln  
 260 265 270  
 Val Thr Asp Glu Ala Ile Tyr Ala Val Phe His Gly His Thr Phe Lys  
 275 280 285  
 Glu Ile Met Ala Gln His Gln Lys Glu Gly Arg Ala Thr Asp Gly Gly  
 290 295 300  
 Gln Tyr Ile Tyr Val Phe Asn Leu Gln Gly Glu Pro Leu Cys Lys Tyr  
 305 310 315 320  
 Thr Leu Asp Arg Tyr Ile Thr Gly Phe His Val Asp Glu Arg Asn Lys  
 325 330 335  
 Thr Ile Thr Ala Thr Asp Val Asn Asn Asp Gln Pro Ile Val Glu Phe  
 340 345 350  
 Arg Phe Gly  
 355

&lt;210&gt; 5946

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5946

Asp Glu Met Lys Lys Phe Arg Cys Thr Val Cys Gly Tyr Val Tyr Glu  
 1 5 10 15  
 Gly Asp Ala Ala Pro Glu Lys Cys Pro Leu Cys Lys Ala Pro Ala Ser  
 20 25 30  
 Lys Phe Val Glu Val Val Glu Glu Glu Gly Gly Ala Leu Thr Phe Val  
 35 40 45  
 Asp Glu His Val Ile Gly Val Ala Lys Gly Cys Asp Glu Glu Met Ile  
 50 55 60  
 Lys Asp Leu Asn Asn His Phe Met Gly Glu Cys Thr Glu Val Gly Met  
 65 70 75 80  
 Tyr Leu Ala Met Ser Arg Gln Ala Asp Arg Glu Gly Tyr Pro Glu Val  
 85 90 95  
 Ala Glu Ala Phe Lys Arg Tyr Ala Trp Glu Glu Ala Glu His Ala Ser  
 100 105 110  
 Lys Phe Ala Glu Leu Leu Gly Asp Cys Val Trp Asp Thr Lys Thr Asn  
 115 120 125  
 Leu Glu Lys Arg Met Asn Ala Glu Ala Gly Ala Cys Glu Asp Lys Lys  
 130 135 140  
 Arg Ile Ala Thr Arg Ala Lys Ala Leu Asn Leu Asp Ala Ile His Asp  
 145 150 155 160  
 Thr Val His Glu Met Cys Lys Asp Glu Ala Arg His Gly Lys Gly Phe  
 165 170 175  
 Glu Gly Leu Tyr Asn Arg Tyr Phe Gly Lys Lys  
 180 185

&lt;210&gt; 5947

&lt;211&gt; 723

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 5947

Ile Met Met Lys Arg Asn Leu Leu Ser Ala Ala Phe Ala Leu Met Ala  
 1 5 10 15  
 Leu Ala Val Ser Ala Asp Glu Gly Met Trp Met Leu Thr Asp Leu Lys  
 20 25 30  
 Ala Gln Asn Glu Ala Ala Met Met Asp Leu Gly Leu Gln Ile Pro Ile  
 35 40 45

Glu Glu Val Tyr Asn Pro Asp Gly Ile Ala Leu Lys Asp Ala Val Val  
 50 55 60  
 His Phe Gly Gly Gly Cys Thr Gly Glu Ile Ile Ser Ala Glu Gly Leu  
 65 70 75 80  
 Val Leu Thr Asn His His Cys Gly Tyr Gly Ala Ile Gln Gln His Ser  
 85 90 95  
 Ser Val Asp His Asp Tyr Leu Thr Asn Gly Phe Trp Ala Met Asn Arg  
 100 105 110  
 Asn Glu Glu Leu Pro Cys Lys Gly Leu Thr Val Thr Phe Ile Asp Arg  
 115 120 125  
 Ile Leu Asp Val Thr Thr Tyr Val Asn Glu Gln Leu Lys Lys Asp Asp  
 130 135 140  
 Asp Pro Asn Gly Ile Asn Tyr Leu Ser Pro Lys Tyr Leu Ala Thr Val  
 145 150 155 160  
 Ala Asp Arg Phe Ala Lys Ala Glu Asn Ile Gln Ile Thr Pro Ala Thr  
 165 170 175  
 Arg Leu Glu Leu Lys Pro Phe Tyr Gly Gly Asn Lys Tyr Tyr Leu Phe  
 180 185 190  
 Val Lys Thr Val Tyr Asn Asp Ile Arg Met Val Gly Ala Pro Pro Ser  
 195 200 205  
 Ser Ile Gly Lys Phe Gly Ala Asp Thr Asp Asn Trp Met Trp Pro Arg  
 210 215 220  
 His Thr Gly Asp Phe Ser Leu Phe Arg Ile Tyr Ala Asp Lys Asn Gly  
 225 230 235 240  
 Gln Pro Ala Glu Tyr Ser Lys Asp Asn Val Pro Leu Gln Val Lys Lys  
 245 250 255  
 His Leu Thr Ile Ser Leu Ala Gly Val Lys Glu Gly Asp Phe Thr Phe  
 260 265 270  
 Val Met Gly Phe Pro Gly Arg Asn Trp Arg Tyr Met Ile Ser Asp Glu  
 275 280 285  
 Val Lys Glu Arg Met Gln Thr Thr Asn Phe Met Arg His His Val Arg  
 290 295 300  
 Glu Ala Arg Gln Ala Val Leu Met Asp Gln Met Leu Lys Asp Pro Ala  
 305 310 315 320  
 Val Arg Ile His Tyr Ala Ser Lys Tyr Ala Ser Ser Ala Asn Tyr Trp  
 325 330 335  
 Lys Asn Ala Ile Gly Met Asn Glu Gly Leu Val Arg Leu Lys Val Leu  
 340 345 350  
 Asp Thr Lys Glu Lys Gln Gln Glu Gln Leu Leu Ala Met Gly Arg Glu  
 355 360 365  
 Lys Gly Asp Asp Ser Tyr Gln Lys Ala Phe Asp Glu Ile Arg Ser Ile  
 370 375 380  
 Val Ala His Arg His Asp Ala Met Tyr His Gln Gln Ala Ile Ser Glu  
 385 390 395 400  
 Ala Leu Val Thr Ala Leu Asp Phe Met Lys Ile Pro Ser Thr Asp Gly  
 405 410 415  
 Leu Lys Lys Ala Leu Glu Ser Lys Asn Ala Thr Lys Ile Lys Glu Glu  
 420 425 430  
 Thr Asp Lys Leu Lys Ala Glu Ala Asp Lys Tyr Phe Ala Ser Val Pro  
 435 440 445  
 Phe Pro Glu Val Glu Arg Leu Val Gly Lys Lys Met Leu Glu Thr Tyr  
 450 455 460  
 Ala Gly Tyr Ile Pro Glu Asp Gln Gln Ile Gly Ile Phe Lys Val Ile  
 465 470 475 480  
 Asp Ser Arg Phe Lys Gly Asn Lys Asp Ala Phe Ile Asp Ala Cys Phe  
 485 490 495  
 Lys Tyr Ser Ile Phe Gly Ser Lys Glu Asn Phe Asn Lys Phe Ile Ala  
 500 505 510  
 His Pro Thr Leu Asn Lys Leu Asp Lys Asp Trp Met Ile Leu Phe Lys